ENVIRONMENTAL ASSESSMENT

Prepared in compliance with the National Environmental Policy Act of 1969

Yakima Grade Separation Project: Lincoln Avenue and B Street

City of Yakima, Washington

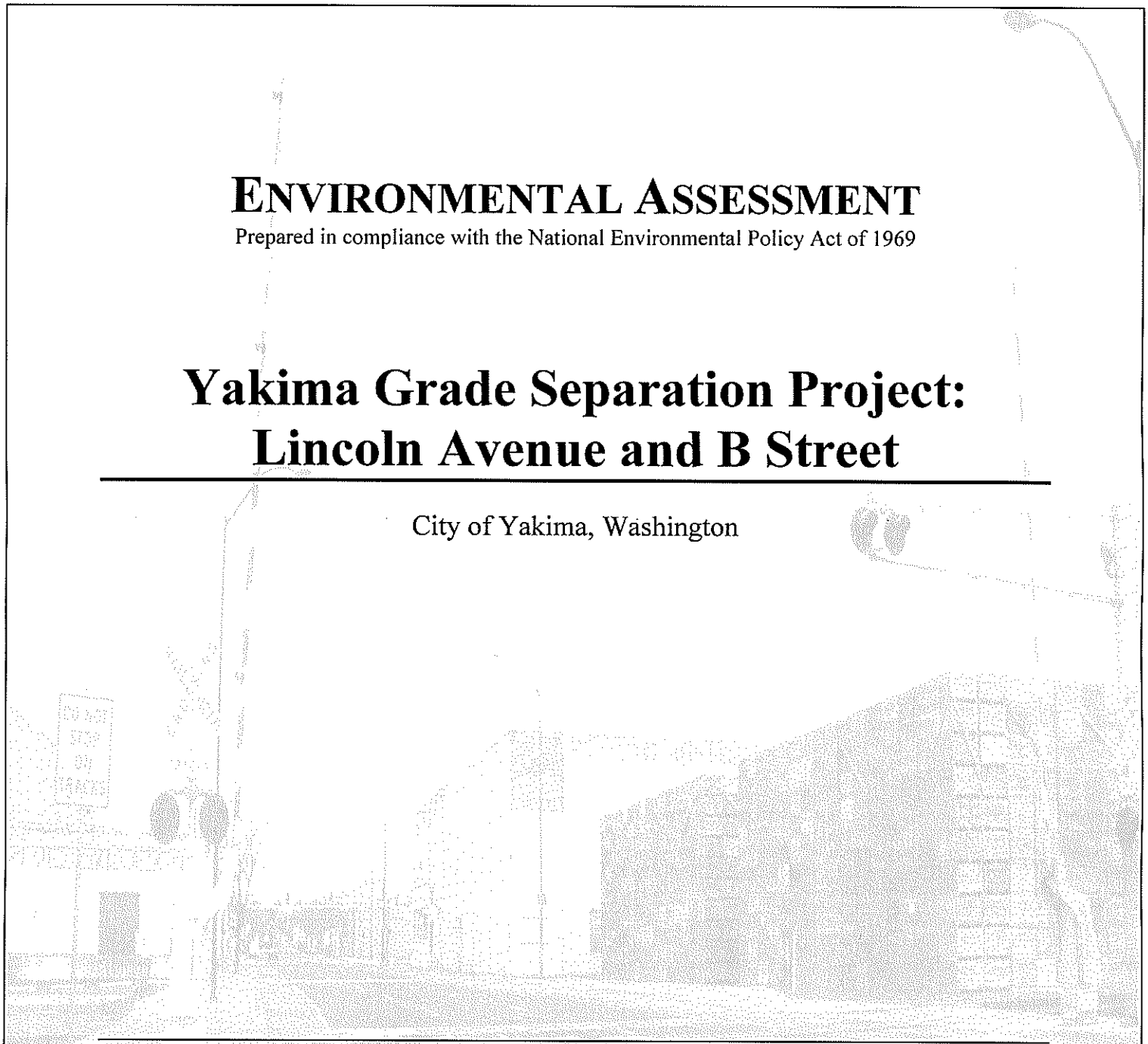

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Photo: Existing crossing on Lincoln Avenue, facing west

Environmental Assessment

Yakima Grade Separation Project: Lincoln Avenue and B Street

Submitted pursuant to 42 U.S.C. 4332(2)(c)

by the

U.S. Department of Transportation
Federal Highway Administration

Washington State Department of Transportation
South Central Region Local Programs Office

and

City of Yakima

4/11/06
Date of Approval

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List of Acronyms

AASHTO	American Association of State Highway & Transportation Officials
ADT	Average Daily Traffic
APE	Area of Potential Effect
BGS	Below Ground Surface
BNSF	Burlington Northern – Santa Fe
CBD	Central Business District
CERLCA	Comprehensive Environmental Response, Compensation, and Liability Act
CO	Carbon Monoxide
CWA	Clean Water Act
DNR	Department of Natural Resources
DOE	Washington State Department of Ecology
EA	Environmental Assessment
EJ	Environmental Justice
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FMSIB	Freight Mobility Strategic Investment Board
FONSI	Finding of No Significant Impact
HC	Hydrocarbons
HSWA	Hazardous and Solid Waste Amendments
mph	Miles Per Hour
MTCA	Model Toxics Control Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA-Fisheries	National Oceanic and Atmospheric Administration – Fisheries Department

NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OAHP	Office of Archaeological and Historic Preservation
OSHA	Occupational Safety and Health Act
PAI	Potentially Affected Interests
PM	Particulate Matter
PPM	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
REC	Recognized Environmental Condition
ROW	Right-of-way
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
VMT	Vehicle Miles of Travel
vph	Vehicles per Hour
WAC	Washington Administrative Code
WISHA	Washington Industrial Safety and Health Act
YRCAA	Yakima Regional Clean Air Authority
YRRA	Yakima Railroad Area
YVCOG	Yakima Valley Council of Governments

Executive Summary

The City of Yakima is proposing to grade separate the Burlington Northern-Santa Fe (BNSF) railroad tracks at the Lincoln Avenue and B Street at-grade crossings in downtown Yakima. The project is referred to as the Yakima Grade Separation Project in this summary.

Where is the Yakima Grade Separation Project?

The Yakima Grade Separation Project is located in Yakima, Washington. The project area (construction area) is located along Lincoln Avenue and B Street between South First Street and South First Avenue and along Front Street between D Street and A Street.

What is the Yakima Grade Separation Project?

There are three basic construction elements to the Yakima Grade Separation Project. They are:

- Under the Preferred Alternative, the roadways will be lowered under the existing grade of Front Street and the rail at the Lincoln Avenue and B Street crossings (creating underpasses);
- Front Street will be realigned toward the railroad tracks; and
- Two bridges will be constructed across Lincoln Avenue and B Street in order to allow Front Street to cross over the underpasses and be maintained as a through street.

Other improvements will be made as part of the project, including replacing water and sewer lines along Front Street within the project area, repaving Front Street with brick pavers within the Historic District, installing sidewalks and upgrading signs. **The Preferred Alternative is discussed in detail in Section 3.1.**

Why was the Yakima Grade Separation Project initiated?
The BNSF railroad tracks bisect the city, which makes it necessary for vehicular traffic to cross the tracks in order to travel between the east and west sides of the city. In recent years, the number of trains traveling through Yakima has increased. Train traffic is expected to increase further in the future due to improvements in the Stampede Pass line and as other rail lines crossing the Cascade Mountains reach or near capacity. The current configuration of the railroad has caused traffic congestion and delays, especially when the at-grade crossing are blocked simultaneously either by a through train (up to one mile in length) or by train building by BNSF personnel. This has resulted in an increase in minor traffic accidents, an increase in air and noise pollution and delayed response times of emergency vehicles. Grade separating the railroad tracks will improve transportation efficiency and traffic safety, reduce air and noise pollution and account for future increases in vehicular and train traffic. **The purpose and need for the project are discussed in detail in Chapter 2.**

When will construction begin and how long will it take?
Construction is expected to take place from approximately January 2007 to December 2008. **The construction schedule is discussed in detail in Section 3.1.3 and 3.1.4.**

How will the project affect the built environment?
The necessary work to complete the proposed project includes excavation, roadway reconstruction, bridge construction, installation of sidewalks, grading and paving. Based on the analysis conducted for this project, there will be some substantial effects to the built environment. The following discussion highlights findings of the analysis:

- **Land Use Planning and Policies** – The proposed project is consistent with local land use plans and policies. The Preferred Alternative may require the acquisition of one to two properties along the project corridor. Compensation would be provided for property acquisition and relocation assistance provided. Property acquisition would comply with applicable federal and state guidelines. **Section 4.1.**

- **Transportation Efficiency (Train and Vehicular)** – The Preferred Alternative will improve transportation efficiency and freight mobility for both trucks and trains, improve traffic safety and account for future levels of vehicular and train traffic. **Section 4.2.**
- **Public Safety** – The Preferred Alternative is expected to improve emergency response times by reducing traffic congestion and delays caused by train traffic and/or related side street and arterial traffic congestion. **Section 4.2.**
- **Public Services and Utilities** – The Preferred Alternative is expected to improve public services (including emergency vehicle response times) by improving traffic flow in the project and surrounding areas. The project will have minor effects on some public services during construction due to changes in access, detour routes and increased traffic volumes on other roadways. **Section 4.3.**
- **Community, Neighborhoods and Businesses** – The Preferred Alternative is expected to displace the storage/repair facility of one business, modify access to other businesses, and result in some traffic disruptions and noise during construction. Access modifications may also make the relocation of two businesses necessary as part of this project. Measures to avoid, minimize and mitigate potential effects have been incorporated into this project. All property acquisitions would be undertaken in accordance with The Uniform Relocation Assistance and Real Property Acquisition Act. **Section 4.4.**
- **Environmental Justice** – The project will not have a disproportionately high and adverse effect on minority and/or low-income populations. **Section 4.5.**

- **Parks, Recreational, Historic, Cultural and Archaeological resources** – No parks or recreational resources are present within the project area. The Preferred Alternative will affect one National Register of Historic Places (NRHP) – eligible structure within the project Area of Potential Effect (APE). Mitigation measures will be developed if adverse impacts will occur. **Section 4.6.**

How will the project affect the natural environment?

Based on the analysis conducted for this project, no substantial effects to the natural environment are expected. The following discussion highlights findings of the analysis:

- **Geology and Soils** – The Preferred Alternative is not expected to have a significant impact on existing geology and soil conditions, as the current project area is currently paved and developed with parking facilities, transportation facilities and other structures. **Section 4.7.**
- **Water Quality** – No impacts to water quality are anticipated from the proposed project. **Section 4.8 and 4.13.**
- **Wetlands** – No wetlands are present within the project area. Therefore, the proposed project is not expected to affect any wetlands. **Section 4.8.**
- **Vegetation and Wildlife** – The proposed project will not affect any federally listed terrestrial species. The project will permanently displace some curbside vegetation. Landscaping to replace affected trees will be incorporated into the project as appropriate. **Section 4.9.**
- **Fish, Aquatic Habitat, and Threatened and Endangered Fish Species** – The project area does not contain any aquatic habitat. Therefore, the project is not expected to affect any fish, aquatic habitat, or threatened and endangered fish species. **Section 4.9.**

- **Air Quality** – The proposed project is expected to have a long-term beneficial impact on air quality as a result of reduced local vehicular emissions due to a reduction in time spent idling. Dust and emission-control measures will minimize any potential short-term effects on air quality during construction. **Section 4.10.**
- **Noise** – The proposed project will create some temporary construction noise. **Section 4.11.**
- **Hazardous Materials and Wastes** – The Preferred Alternative is not expected to affect any hazardous waste material sites. **Section 4.13.**

How was the Preferred Alternative selected?

Widener & Associates, in association with BERGER/ABAM Engineers, Inc., published a Project Checklist in November of 2002. The checklist identifies five alternatives which were described and evaluated based on the purpose and need for the project and for potential environmental effects.

Resource and regulatory agencies, adjacent business/property owners, and the general public were contacted to obtain their feedback on the project and the proposed alternatives. Two public open house meetings were held on October 18, 2001 and April 4, 2002 to discuss the project and associated project issues. Key comments included concerns regarding the effects on existing access to businesses, the effects on business during construction, the potential destruction or further deterioration of the historical district in downtown Yakima, and the legitimacy of the purpose and need of the project. A business operations and marketing questionnaire was distributed to business owners in the project area in November 2004 to solicit feedback on the project. Responses from this questionnaire included concerns of the effects to business access, effects to business operations and the legitimacy of the project's purpose and need.

During the development of the EA, the project team (the City staff, their consultants, and the public) identified an additional five alternatives, including three sub-alternatives of Alternative 13 (Alternatives 9, 10, 11, 12, 13a, 13b and 13c). The Preferred Alternative was chosen after reviewing public comments on the original five alternatives addressed in the Project Checklist and based on an analysis by the project team of the additional five alternatives developed during the preparation of the EA.

A Value Engineering Study was conducted on the project in July 2005. Eighteen potential design modifications were identified for the project. Estimated cost revisions for the design modifications varied between adding $682,000 to saving $4,666.000. The Value Engineering Study alternatives were reviewed by the design team and a preliminary disposition for each alternative was arrived at based on project goals and objectives. The preliminary dispositions were reviewed by the Project Guidance Team (PGT) and adjusted per the PGT consensus. The final dispositions were reviewed with the Transportation Improvement Board and several measures were incorporated into the Preferred Alternative design. An additional alternative (Alternative 2e) was identified from the Value Engineering Study, and added to this EA.

It is anticipated that at least one more public meeting will be held to facilitate on-going efforts to involve the public in the project design development process.

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1. Introduction to the Project

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) of 1969. The purpose of this document is to notify and inform the public and government agencies about the proposed project, identify the preferred alternative and identify and evaluate potential environmental, social and economic effects that may occur as a result of the preferred alternative. A Project Checklist for this project was prepared by Widener & Associates in association with Berger/ABAM Engineers in November 2002. Alternatives identified in the checklist were described and evaluated based on the purpose and need of the project, potential environmental effects, and project costs.

In compliance with the National Environmental Policy Act and WSDOT guidance, once the Preliminary EA has been reviewed by the federal lead agency and comments addressed, the EA will be published and provided to the public and resource agencies for a 30-day comment period. During the comment period, an open house meeting will be held to give parties further opportunity to comment on the project.

1.1 Who is leading the project?

1.1.1 Lead Agency

United States Department of Transportation, Federal Highway Administration, 711 S. Capitol Way, Suite 501, Olympia, WA 98501

1.1.2 Participating Agencies

The City of Yakima,129 N. Second Street, Yakima, WA 98901

Washington State Department of Transportation, 310 Maple Park Avenue SE, PO Box 47300, Olympia, Washington, 98504-7300

1.2 Where is the project located?

The project area (construction area) is located along Lincoln Avenue and B Street between South First Street and South First Avenue and along Front Street between D Street and A Street. The legal geographic description within which the project is located is: Township 13 North, Range 18 East, Sections 24 NE and 19 NW. Please refer to the vicinity map provided in Figure 1.

The eight blocks surrounding the project area (bounded by D Street, Yakima Avenue, First Avenue, and First Street) is considered to be the area that will be most affected by the project.

1.3 What is the proposed project?

The scope of the proposed project is to improve transportation efficiency and freight mobility through the City of Yakima by creating grade separations at two railroad crossings located on Lincoln Avenue and B Street. 'Grade separate' is defined as separating the vertical alignment of the railroad and roadway. Grade separation is commonly accomplished through the construction

of underpasses/overpasses. The work proposed under this project includes excavation, roadway reconstruction, bridge construction, installation of sidewalks, grading, and paving. The proposed project will also include the realignment of Front Street toward the railroad tracks and the construction of two bridges across Lincoln Avenue and B Street in order to allow Front Street to cross over the underpasses and be maintained as a through street. The existing rail alignment will remain at its current elevation, minimizing impacts associated with re-routing or reconstructing the lines. A new infiltration pond will be utilized for stormwater treatment of the new impervious surface created by the project.

The proposed project will be constructed in five stages over approximately two years. In order to minimize effects to businesses and traffic operations, the two streets proposed for grade separation will not be closed at the same time. During traffic closures, the street that remains open will be channelized for two-way traffic. Reasonable access to businesses will be maintained at all times.

1.4 What is the estimated cost of the proposed project?

The proposed project is expected to cost approximately $30 million.

1.4.1 Who will fund the project?

Of this amount, $23.5 million has been committed by the following major funding partners: Freight Mobility Strategic Investment Board (FSMIB) ($7 million), City of Yakima ($2 million), Federal Highway Administration (FHWA) ($12.5 million), State Transportation Improvement Board (TIB) ($500,000), and Burlington Northern Santa Fe Railway (BNSF) ($1.5 million). The TIB has verbally committed to funding up to $8 million. These funds are yet to be awarded. The City of Yakima is also working with the Port of Tacoma and the Port of Seattle to find additional funds to supplement the FHWA funding.

1.5 What permits and approvals are required?

The permits and approvals that are likely to be required for this project are summarized below.

1.5.1 Federal Permits / Concurrences

		Yes	Maybe	No
1.	National Historic Preservation Act – Section 106	X		
2.	Endangered Species Act	X		

1.5.2 State / County / Local / Private Permits

		Yes	Maybe	No
1.	Local clearing and grading permit	X		
2.	National Pollution Discharge Elimination System (NPDES)	X		
3.	BNSF Railroad Permit (Construction & Maintenance Agreement)	X		

1.6 How will the project affect other land use in the area?

1.6.1 Land Ownership

Land within the project area is privately owned. However, the construction limits of the underpasses (from First Avenue to First Street) are within the City right-of-way (ROW). The project will require minor ROW acquisition from BNSF for the realignment of Front Street. The Preferred Alternative may require acquisition of the ARCO/Lincoln Avenue Car Wash property, located on the northwest corner of Lincoln Avenue and First Street, and/or the Goodyear property, located on the northeast corner of Lincoln Avenue and Front Street, due to access modifications. Acquisition of these properties may also be necessary under Alternative 13b. Chapter 3 discusses the various alternatives, including potential impacts to land ownership.

1.6.2 Planning By Others

The State of Washington Growth Management Act (as amended in 1995) requires cities to plan for expected growth. In compliance with this act, the Yakima Urban Area Comprehensive Plan guides future growth within the urban growth boundary addressing issues such as land use, transportation, industrial development, public services, and transit.

The City of Yakima has included the proposed Grade Separation Project in its Transportation Improvement Plan, a required element of its Growth Management Plan. Accordingly, it may be concluded that this project complies with the transportation and land use goals as defined in the Yakima Urban Area Comprehensive Plan developed in compliance with the State of Washington Growth Management Act.

1.6.3 BNSF Railroad Planning and Operations

In 1996, BNSF spent $135 million to reopen the Stampede Pass line in order to increase east-west capacity, as the Columbia Gorge and Stevens Pass lines are at or near capacity. As discussed in an EA prepared by the Surface Transportation Board (STB), the Stampede Pass line improvements allowed the BNSF to reopen the line to train traffic and connect to the Washington Central Railroad Company's (WCRC) Cle Elum to Pasco line, which bisects the City of Yakima (STB, 1996). As a result of the Stampede Pass reopening and the resumed use of the WCRC line for freight traffic, trains are once again passing through the City of Yakima and the number is expected to increase. The current capacity of the Stampede Pass line is 10 trains per day (STB, 1996; pg 5). Improvements to the Stampede Pass tunnel could further increase capacity (STB, 1996; pg 5).

BNSF operations in the project area consist of one mainline track that connects the Puget Sound Region to the Tri Cities as well as a small office and maintenance yard west of the tracks between B Street and Lincoln Avenue. A BNSF operated rail yard is located 0.5 miles to the south of the project area. This yard is primarily used to build and disassemble longer trains from cars that come in from or are headed to various spur lines that tie into the mainline throughout the Yakima Valley. Occasionally, during train building activities, trains extend north of the yard

blocking B Street and Lincoln Avenue for longer periods of time as compared to any of the through trains. There are also two spur lines (one to the east and one to the west of the project area) that connect to the mainline just north of the project area.

1.7 What are the beneficial effects of the project?

The Yakima Grade Separation Project: Lincoln Avenue and B Street: would have a number of beneficial effects. The major effects would be to improve traffic flow on Lincoln Avenue and B Street and the adjacent arterials. Beneficial effects are summarized below:

Land Use

- Promotes economic development in the Central Business District in accordance with the City of Yakima's Urban Area Comprehensive Plan (1997).

Transportation

- Eliminates at-grade crossings on Lincoln Avenue and B Street, and improves the connection between the east and west sides of the city, improving transportation efficiency and mobility;
- Reduces train traffic related congestion, delays, and accidents;
- Provides improved infrastructure for future levels of traffic;

Public Services and Utilities

- Improves transportation related public services (police, fire, ambulance, school buses, mail delivery);
- Reduces emergency vehicle travel times by improving roadway circulation;
- Replaces and upgrades existing water and sewer lines in the project area, decreasing the changes of unplanned future utility disruption.

SocioEconomic

- Improves customer access to businesses in the project area and Central Business District;
- Improves freight mobility and reduces shipping costs for food processing businesses in and around the project area;
- Improves safety for vehicles, pedestrians and bicycles by reducing congestion and delays and through improvements to pedestrian and bicycle facilities.

Air & Noise Quality

- Improved air quality through a reduction in air emissions associated with idling;
- Eliminates the need for train whistles at the Lincoln Avenue and B Street crossings;

Project Area (Construction Area)

Historic District

Central Business District

N
W E
S

Figure 1: Vicinity Map

Yakima Grade Separation Project: Lincoln Avenue and B Street

2. Purpose and Need

2.1 What is the purpose of the project?

The purpose of the project is to improve vehicular and train safety, improve the efficiency and capacity of transportation by rail and road, reduce air pollution, and reduce noise pollution by creating grade separations at two railroad crossings located at Lincoln Avenue and B Street in the City of Yakima, Washington State, while minimizing impacts to the community. The project would also improve traffic safety for bicyclists and pedestrians and would involve clean-up of abandoned railroad tracks and the replacement of old sewer and water main lines.

2.2 Why is the project needed?

The City of Yakima was built around the railroad in the 1880's and, as a result, the railroad tracks bisect the city. This necessitates vehicle and pedestrian traffic to cross the tracks in order to travel between the east and west sides of the city. There are nine roadway / railroad crossings within the city, two of which are grade-separated (Walnut Street and Nob Hill Boulevard) and seven of which (I Street, D Street, Lincoln Avenue, B Street, Yakima Avenue, Mead Avenue, and Washington Avenue) are at-grade. The Walnut Street crossing is currently the only grade-separated crossing within the central business district. The "Central business district" is defined as the area within the following boundaries: The west curbline of 6th Avenue, the south curbline of Walnut Street, the east curbline of 6th Street, and the north curbline of Lincoln Avenue. (Ord. 2735 § 2 (part), 1983) According to the City of Yakima, approximately 80 percent of the population of the City lives on the west side of the tracks (pers. comm., February 16, 2006), while most of the services are on the east side of the tracks. Thus, most Yakima City citizens and services, including school buses, emergency vehicles, freight trucks, and citizens traveling to and from work, use the streets with at-grade crossings. Conflicts arise when long trains (a mile or more in length) or train building activities intersect the at-grade crossings and cause delays to vehicular traffic. As discussed in detail in the following sections, conflicts at the crossings result in issues of safety, transportation network efficiency, air pollution, and noise pollution. Levels of use of the project area by both road and rail traffic are projected to increase over the next 30 years, intensifying these conflicts.

2.2.1 Current and Future Levels of Use/Service

Vehicular

During the PM peak hour, 1,950 vehicles per hour (vph) travel through the Lincoln Avenue and B Street at-grade intersections. By the year 2030, the volume of traffic is anticipated to increase to 2,800 vph, which translates to an increase of 44% in approximately 30 years. The total

Average Daily Traffic[1] (ADT) on Lincoln Avenue and B Street is 23,500, with truck traffic constituting approximately 5.5% of this amount (FMSIB, 2000). (Transpo, 2002)

Railroad

Currently, an average of nine trains (6 freight and 3 local trains) travel through the City of Yakima per day (pers comm. City of Yakima, April 7, 2005). The number of trains passing through Yakima is expected to increase in the future as a result of the expansion of BNSF operations. Currently, three railway lines located in the Columbia Gorge, Stevens Pass, and Stampede Pass are used to move goods to western ports for shipment around the world, particularly to and from Asia. BNSF spent $135 million to reopen the Stampede Pass line in December 1996 in order to increase east-west capacity, as the Columbia Gorge and Stevens Pass lines are at or near capacity. The Stampede Pass line improvements allowed the BNSF to reopen the line to train traffic and connect to the WCRC Cle Elum to Pasco line, which bisects the City of Yakima. (STB, 1996) As a result of the Stampede Pass reopening and the resumed use of the WCRC line for freight traffic, trains are once again passing through the City of Yakima and the number is expected to increase. The current capacity of the Stampede Pass line is 10 trains per day (STB, 1996; pg 5). Improvements to the Stampede Pass tunnel could further increase capacity (STB, 1996; pg 5).

2.2.2 Safety

Accident History

Traffic data obtained from WSDOT and the City of Yakima for 2002 – 2004, detailed accidents at four intersections (First Avenue and B Street, First Avenue and Lincoln Avenue, Front Street and Lincoln Avenue, and Front Street and B Street) within the project area. A total of 14 collisions occurred resulting in 8 injuries but no fatalities.

On June 3, 2005, a woman was struck by a slow moving train at the B Street crossing. She died the following day. The woman lived in the Cascade Apartments and was reportedly deaf. (Yakima Herald Republic, June 6, 2005)

Public Safety

The at-grade crossings affect response times of emergency vehicles (police, fire, ambulance services) within the City of Yakima. All seven streets where at-grade crossings currently exist are emergency vehicle routes. Due to the length of trains, several at-grade crossings may be blocked at the same time (a 6,500 foot-long train can block the at-grade crossings at I Street, D Street, Lincoln Avenue, B Street, and Yakima Avenue simultaneously). Ambulance, police, and fire vehicles are forced to seek alternative response routes, or to respond from other parts of the city, resulting in delayed response times. According to the City of Yakima Police Department (pers. comm. April 5, 2002; Appendix B), officers have experienced problems responding to

[1] Average Daily Traffic (ADT) is used to determine appropriate safety standards for a roadway and to design a roadway in a manner that ensures it has the capacity to carry current and future levels of traffic.

emergencies due to the at-grade crossings. Increases in train traffic could have an even more significant impact on their ability to respond to emergency situations.

According to Steve Scott, the Deputy Fire Chief (pers. comm. June 8, 2005; Appendix B), in 1973 when the fire station (Fire Station #91) at the corner of Front and D Streets was opened, the total number of emergency call outs for the entire City of Yakima was 1,142. In 2004, the City of Yakima Fire Department responded to over 8,000 calls. Fire Station #91 provided initial response apparatus to over 3,200 of those 8,000 calls. In 1973 when the station opened, there were also fewer commuters utilizing City streets. The expectation at that time was that there would be rare potential for significant delays caused by train blockage. However, today with the increase in emergency calls and the increase in road and train traffic, the potential for significant delay of emergency response vehicles is high. Formerly, if Yakima Avenue, Lincoln Avenue, and D Street were blocked, the response team would be able to alter their route to the Walnut Street underpass and experience a possible 45-second response delay to locations just west of the station. Now they may experience, at certain times of day, delays that are several minutes long. Every minute of response time is critical for the survival of people requiring medical attention such as resuscitation, for rescuing people trapped in fires, and for reducing property damage as a result of fire. Minimizing the potential for emergency response equipment to be blocked by train traffic and/or related side street and arterial traffic congestion, is in the best interest of City citizens.

2.2.3 Transportation Efficiency

Efficiency of the transportation network is an issue for truck and train freight traffic, social services and the general public. An estimated 17 million tons of truck freight and 13 million tons of rail freight pass through Yakima, annually. Constructing grade-separated crossings at B Street and Lincoln Avenue would improve truck circulation between the interstate, rail yard and packing houses. Traffic would be free-flowing at the Lincoln Avenue and B Street crossings during train passages, reducing traffic congestion. As discussed above, the majority (80%) of the population of the City of Yakima lives on the west side of the tracks, while most of the services are on the east side of the tracks. During a train passage, traffic diverts from the at-grade crossings to the Walnut Street crossing in the downtown area, sometimes resulting in gridlock at this crossing. As discussed in Section 2.2.2, this affects emergency services as well as private citizens.

The average blockage time at the B Street and Lincoln Avenue at-grade intersections is currently about 6 minutes and the average traffic delay (consisting of the blockage time plus the time taken for road traffic backups to clear) is eight minutes. In 2030 the average traffic delay at these intersections is expected to increase to ten minutes if the grade separation is not constructed but would be eliminated upon completion of the proposed project (Transpo, 2002).

2.2.4 Air and Noise Pollution

Air Pollution

Grade separating Lincoln Avenue and B Street from the railroad tracks is expected to have a long-term beneficial effect on air quality by reducing vehicular emissions in the immediate vicinity. Road traffic delays at the at-grade railway crossings result in increased levels of vehicular emissions, which contribute to Yakima being a maintenance area for particulate matter (PM_{10}) and carbon monoxide (CO) under the Clean Air Act. Currently, train volumes at the Lincoln Avenue and B Street crossings result in the discharge, from road traffic, of 1.0 - 1.5 kilograms (2.2 to 3.2 pounds) of CO into the atmosphere per day (FMSIB 2000). Increases in train traffic, would increase this volume.

Noise Pollution

Grade separating Lincoln Avenue and B Street from the railroad tracks is expected to reduce general noise levels in the project area by reducing stop-and-go traffic at the Lincoln Avenue and B Street crossings and by permanently eliminating to need for the use of train whistles and warning bells. A train whistle ban is currently in place within the city boundary. Receptor sites within the vicinity of the crossings include the Senator Apartments, Cascade Senior Apartments, and restaurants within the downtown historic area. Hotel and motel operators along North First Street have also reported complaints regarding late night train whistles. The project will also reduce noise by replacing the existing rail track with continuous welded rail for all mainline track between Yakima Avenue and D Street.

2.2.5 Summary of Needs

Levels of Use / Service

Levels of use of the project area by both road and rail traffic are projected to increase over the next 30 years, thus intensifying the existing issues of safety, efficiency of the transportation network, air and noise pollution at the at-grade crossings. The elimination of road/rail conflicts at the at-grade intersections on B Street and Lincoln Avenue will accommodate future rail and road use levels and will address safety, transportation efficiency, and air and noise pollution issues for both current and future conditions in the project area; thus, enhancing the environmental, social and economic conditions in the City of Yakima.

Safety

Construction of the grade-separated crossings is expected to improve safety by eliminating distractions (i.e., train horns, warning lights) and fixed obstacles (i.e., idling vehicles, crossing signs, crossing bars), reducing traffic congestion, and improving emergency vehicle response times.

Transportation Efficiency

Construction of the at-grade crossings will allow traffic to be free- flowing at the Lincoln Avenue and B Street crossings during train passages. The project will reduce traffic delays and traffic

congestion, benefiting industry (road and rail freight), social services, and the public as a whole, including residents traveling to and from their places of employment.

Air Pollution

Yakima is currently a maintenance area for PM_{10} and CO under the Clean Air Act. Construction of the at-grade crossings will improve air quality by reducing CO and PM_{10} emissions from idling vehicles.

Noise Pollution

Noise generated by trains has been a significant issue in the project area. This project will improve the noise environment in the project area by eliminating the need for train whistles at the Lincoln Avenue and B Street crossings, reducing stop and go traffic at these crossings, and replacing the track with continuous welded rail for an all-mainline track between Yakima Avenue and D Street.

3. Alternatives

Eight alternatives (and four sub-alternatives of Alternative 2) were originally identified as part of the feasibility study that addressed the seven at-grade crossings within the City of Yakima. All of these alternatives are described in the Design Report (Berger/ABAM, January 2003). As a result of further engineering studies, coordination with the railroad, public input, available funding, and the City's and the public's desire to maintain Front Street as a through street within the downtown area, all crossings other than B Street and Lincoln Avenue, and alternatives that affected crossings other than Lincoln Avenue and B Street, were eliminated from consideration under the proposed project. Lincoln Avenue and B Street were selected for continued project development due to the projected ADT volumes to 2030, arterial classification, and their function as a one-way couplet. Addressing these two crossings met the purpose and need of the project while providing maximum transportation and community benefit for a given amount of financial expenditure and with the least community disruption.

This chapter describes the Preferred Alternative, the No Action Alternative, and alternatives considered but rejected from further evaluation. Of the alternatives identified during the feasibility study, five (Alternatives 1, 2a, 2d, 3, and 4) can be applied to the Lincoln Avenue and B Street crossings if they are addressed independent of the other at-grade crossings. Refer to the Design Report for descriptions of the alternatives that were not addressed as part of this project. During the development of the EA, the project team (the City staff, their consultants, and the public) identified an additional five alternatives, including three sub-alternatives of Alternative 13 (Alternatives 9, 10, 11, 12, 13a, 13b and 13c). An additional alternative was identified from the Value Engineering Study (Alternative 2e).

The degree to which each alternative meets the purpose and need of the project, and the relative effects of each alternative were assessed by the project team based on resource surveys and a transportation and engineering analysis. Public open house meetings to facilitate public input on the project were held on October 18, 2001 and April 4, 2002. The Preferred Alternative was chosen after reviewing public comments on the original five alternatives and based on an analysis by the project team of the additional alternatives developed during preparation of the EA. Table 1 summarizes advantages and disadvantages to the various grade separation alternatives.

Table 1: Matrix of Advantages and Disadvantages of Grade Separation Alternatives

Grade Separation Alternatives	Advantages and Disadvantages of Grade Separation Alternatives					
	How would the alternative meet the overall purpose and need of the project (improve road and railway transportation efficiency and accommodate future levels of use/service, improve vehicular and train safety, and reduce air and noise pollution, while minimizing impacts to the community)?	How would the alternative affect the Communities, Neighborhoods and Businesses in the project vicinity?	Would the alternative adversely affect any Environmental Justice (EJ) populations in the project vicinity?	Would the alternative affect any Parks, Recreational or Archaeological and Cultural Resources?	Would the Alternative affect Wetlands, Aquatic Habitat, Fish, Wildlife or Vegetation or ESA Species?	How would the Alternative affect Geology or Soils in the project vicinity?
Alternative 1: No Action Alternative	• Under the No Action Alternative the roadways would remain at the same grade as the railway. • The No Action Alternative would not improve transportation efficiency or accommodate future levels of service/use. • Does not reduce the potential for long emergency vehicle response times related to through trains at at-grade crossings.	• No construction impacts. • Would not reduce air and noise pollution associated with roadway traffic congestion at at-grade crossings.	The Alternative would not adversely affect any EJ communities within the project vicinity	No effects anticipated.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 2a: Lower Road under Railroad with Railroad at Existing Grade (Lower under Rail only)	Does not maintain Front Street as a north-south through Street.	• Negative affects to businesses related to not maintaining Front Street as a north-south through street.	The Alternative would not adversely affect any EJ communities within the project vicinity	• Displaces the loading dock of one NHPE candidate - Hollingberry and Son Building on Lincoln Avenue	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 2d: (PREFERRED ALTERNATIVE) Lower Road under the Railroad with Railroad at Existing Grade (Lower under Rail and Front Street)	Maintains Front Street as a north-south through street.	• Avoids the negative effects to businesses that would occur by not maintaining Front Street as a north-south through street.	The Alternative would not adversely affect any EJ communities within the project vicinity	• Displaces the loading dock of one NHPE candidate - Hollingberry and Son Building on Lincoln Avenue. • Potential to displace Goodyear Tire and ARCO/Lincoln Avenue Car Wash.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 2e: Lower Road under Railroad with Railroad at Existing Grade (Reduce to Two Lanes Each Way in Underpass)	Would reduce the number of traffic lanes from 3 to 2 in the underpasses, which would create congestion during the lane transition and higher traffic safety concerns. Does not improve transportation efficiency and safety to the same degree as the Preferred	Similar to the Preferred Alternative.	The Alternative would not adversely affect any EJ communities within the project vicinity	• Displaces the loading dock of one NHPE candidate - Hollingberry and Son Building on Lincoln Avenue	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 3: Close Lincoln Avenue and B Street where they Meet the Rail	Would require 23, 600 ADT (Average Daily Traffic) to find alternative routes across the railroad. Would increase traffic volumes and congestion at other crossings.	• Would avoid business relocations and access disruptions.	The Alternative would not adversely affect any EJ communities within the project vicinity	No effects anticipated.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 4: Raise Lincoln Avenue and B Street over the Rail	Overpasses would require extensive walls to allow road to be elevated without impacting adjacent building and would require bridge structures over the rail. Trains need 23 ft clearance while roadway traffic needs only 16.5 ft of clearance. Overpass limits would extend much farther than and underpass to gain the elevation necessary to clear the tracks.	• Increases the number of access disruptions to seven additional businesses that are outside of the Preferred Alternative area of access disruption. • Would affect two businesses in the historic district, the Yakima County Courthouse and several businesses along Fruit Row.	The Alternative would not adversely affect any EJ communities within the project vicinity	• Would affect two businesses in the historic district.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.

Grade Separation Alternatives	Advantages and Disadvantages of Grade Separation Alternatives					
	How would the alternative meet the overall purpose and need of the project (improve road and railway transportation efficiency and accommodate future levels of use/service, improve vehicular and train safety, and reduce air and noise pollution, while minimizing impacts to the community)?	How would the alternative affect the Communities, Neighborhoods and Businesses in the project vicinity?	Would the alternative adversely affect any Environmental Justice (EJ) populations in the project vicinity?	Would the alternative affect any Parks, Recreational or Archaeological and Cultural Resources?	Would the Alternative affect Wetlands, Aquatic Habitat, Fish, Wildlife or Vegetation or ESA Species?	How would the Alternative affect Geology or Soils in the project vicinity?
Alternative 9: Extend Tieton Drive	• Would cost more than the Preferred Alternative, while providing less grade-separation traffic capacity (2 lanes in each direction instead of 3 lanes in each direction). • Too far south to significantly improve traffic in the CBD. • Would not improve air quality or the noise environment in the CBD. • Too far south to significantly improve emergency response delays associated with the at-grade crossings.	• This overpass would be twice as long as the B street and Lincoln Avenue underpasses combined and would have much larger area of impact than the Preferred Alternative. Would require demolition of at least 4 warehouses.	The Alternative would not adversely affect any EJ communities within the project vicinity	No effects anticipated.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 10: Extend Fruitvale Boulevard	• Too far north to significantly improve traffic in the CBD. • Would require a new overpass over the railroad tracks. • Funding from FMSIB AND BNSF would not be available for this project because their funding is tied to grade separating existing at-grade rail crossings. Too far north to significantly improve emergency response delays associated with the at-grade crossings. • Would not improve air quality or the noise environment in the CBD.	• This overpass would be twice as long as the B street and Lincoln Avenue underpasses combined and would have much larger area of impact than the Preferred Alternative. • Would require demolition of at several residences and would bisect Roche's Fruit's operations.	The Alternative would not adversely affect any EJ communities within the project vicinity	No effects anticipated.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 11: Build Underpasses at D Street and Lincoln Avenue	• Would require extensive improvements to D Street over 16 blocks to change it into a one way arterial (currently two-way arterial). • Would require reconstruction of I-82 interchange to accommodate D Street instead of B street.	• Would impact businesses along 16 blocks on both B Street and D Street. • Would require relocation of the fire station and Washington Fruit and Produce's loading dock.	The Alternative would not adversely affect any EJ communities within the project vicinity	No effects anticipated.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated..
Alternative 12: Move the Railroad Track to the West	• Underpasses would still be constructed, but a full intersection would be maintained on Front Street. • Efficiency and capacity of transportation by road would not improve as much as with the Preferred Alternative. • Access to First Street from B Street and Lincoln would not be maintained. Would have to rebuild Walnut Street underpass.	• The new track would run right through the Track 29 Mall and Washington Fruit and Produce's loading dock.	The Alternative would not adversely affect any EJ communities within the project vicinity	No effects anticipated.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 13a: Grade Separate only Lincoln Avenue & Maintain One-Way Couplet	• Would improve efficiency and capacity of road transportation in westbound direction, but not eastbound direction. • Eastbound traffic on B Street would still be impeded by trains.	• Citizens traveling from the west into the downtown area would not benefit by this alternative. • Vehicles making roundtrips to and from the fruit warehouses would only benefit in one direction.	The Alternative would not adversely affect any EJ communities within the project vicinity	No effects anticipated.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 13b: Grade Separate only Lincoln Avenue and Convert to Two-Way	• Westbound movement would be reduced from 3 lanes to 2 and the capacity of the roadway would be reduced.	• Greater impacts to businesses along Lincoln Ave. • Businesses along B Street would not be impacted.	The Alternative would not adversely affect any EJ communities within the project vicinity	• Potential for the Hollingberyy and Son Building to be impacted during construction. • Potential to displace ARCO/Lincoln Avenue Car Wash.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.
Alternative 13c: Grade Separate only Lincoln Avenue & Convert both Streets to Two-Way with Two Lanes each Direction	• Conversion of the existing one-way couplet to two-way vehicle circulation would reduce the average travel speed, primarily due to the introduction of turning movements and delay not currently experienced on the one-way street pattern. • This would reduce traffic efficiency and capacity by road and impact air pollution via vehicle emissions increases at lower speeds and with idling.	• Impacts to a greater number of businesses than the Preferred Alternative due to greater area of ground disturbance.	The Alternative would not adversely affect any EJ communities within the project vicinity	• Increased likelihood to impact cultural resources.	No effects are anticipated.	No significant effects on existing geology or soil conditions are anticipated.

3.1 What is the Preferred Alternative? Alternative 2d: Lower the Road under the Railroad and Front Street (Lower under Rail and Front Street)

3.1.1 Alternative Description

The Preferred Alternative will lower the roadway under the existing grade of Front Street as well as the railway at Lincoln Avenue and B Street (creating underpasses). The underpasses will be deeper than in Alternative 2a (see Section 3.2 for a description of the other alternatives) in order to pass underneath both the railway and Front Street. Front Street will be realigned closer to the existing railroad tracks, and two bridges will be built across Lincoln Avenue and B Street in order to allow Front Street to cross over Lincoln Avenue and B Street and to maintain Front Street as a through street. A Street will be changed to a two-way street between First Street and Front Street. The rail will be left at its existing elevation and location. Work will also include replacing water and sewer lines along Front Street within the project area and repaving Front Street with brick pavers within the Historic District. Within the Historic District, work along Front Street will only take place between the face of the curbs. Refer to Figures 2 and 3.

3.1.2 Design Standards and Criteria

The project has been developed to meet the standards of the American Association of State Highway and Transportation Officials (AASHTO) and the City of Yakima road standards. The following criteria were used to design the Preferred Alternative and other alternatives:

- Design Speed: B Street and Lincoln Avenue - 30 mph; A Street and Front Street - 25 mph
- Vertical Crest Curves: K=19 for design speeds of 30 mph; K=12 for design speeds of 25 mph
- Vertical Sag Curves: K=19.5 for design speeds of 30 mph; K=13.5 for design speeds of 25 mph
- Maximum Vertical Grade: 8%
- Minimum Vertical Clearance: 16.5 feet for roadway underpass
- Lane Widths: Exterior lanes – 12 feet minimum; interior lanes and 2-way left turn lanes or medians – 11 feet minimum
- Sidewalk Widths: 5 feet wide minimum from face of curb to back of sidewalk.

3.1.3 Proposed Work

The proposed work consists of excavation, roadway reconstruction, bridge construction, installation of sidewalks, grading, paving, and upgrading signs. Stormwater treatment for new impervious surface created by the project will be in an infiltration pond. As the new roadway grades will be below the groundwater elevation, watertight bottom seals and walls will be built to keep the roadways from flooding, and stormwater will be pumped to the surface. The total duration of construction is expected to be 24 months (2 years). Construction will take place in

five stages as detailed below and in Figures 4 – 8. However, closures of parts of Lincoln Avenue (Stage 1 and Stage 2) and B Street (Stages 3, 4 and 5) would be limited to 10 months and 9 months respectively, and there would be no portion of the construction period during which both of these streets would be closed.

Stage 1 (four months):

- A Street and B Street will be channelized for two-way traffic between First Street and Third Avenue.
- Lincoln Avenue traffic will be detoured onto B Street.
- Lincoln Avenue will be closed between Front Street and just west of the railroad mainline.
- The section of the Lincoln Avenue underpass located just east of the existing mainline will be excavated and constructed.
- A bridge will be constructed over the newly constructed depressed roadway of Lincoln Avenue. This bridge will be temporarily used as a railroad detour but will later be converted into the realigned Front Street.
- Train tracks will be laid on the new bridge and trains will be temporarily detoured (shooflied) across the new bridge

Stage 2 (six months):

- Lincoln Avenue will be closed between First Street and First Avenue and Front Street will be closed at Lincoln Avenue.
- The Lincoln Avenue underpass will be completed including a railroad bridge at the existing mainline location.

Stage 3 (three months):

- The newly constructed Lincoln Avenue underpass will be temporarily channelized for two-way traffic.
- B Street will be closed between Front Street and just west of the railroad mainline. Traffic will be detoured to Lincoln Avenue.
- The section of the B Street underpass located at the railroad mainline will be constructed.
- Once construction is complete, trains will be returned to the mainline and onto the new railroad bridges at Lincoln Avenue and B Street

Stage 4A (one month):

- The at-grade sections of the realigned portion of Front Street will be constructed.

Stage 4B (five months):

- B Street will be closed between First Street and First Avenue and Front Street will be closed at B Street.
- B Street will be completed including the bridge for the realigned Front Street.
- Lincoln Avenue will be channelized for one-way traffic and all detours will be removed.

3.1.4 Construction Schedule

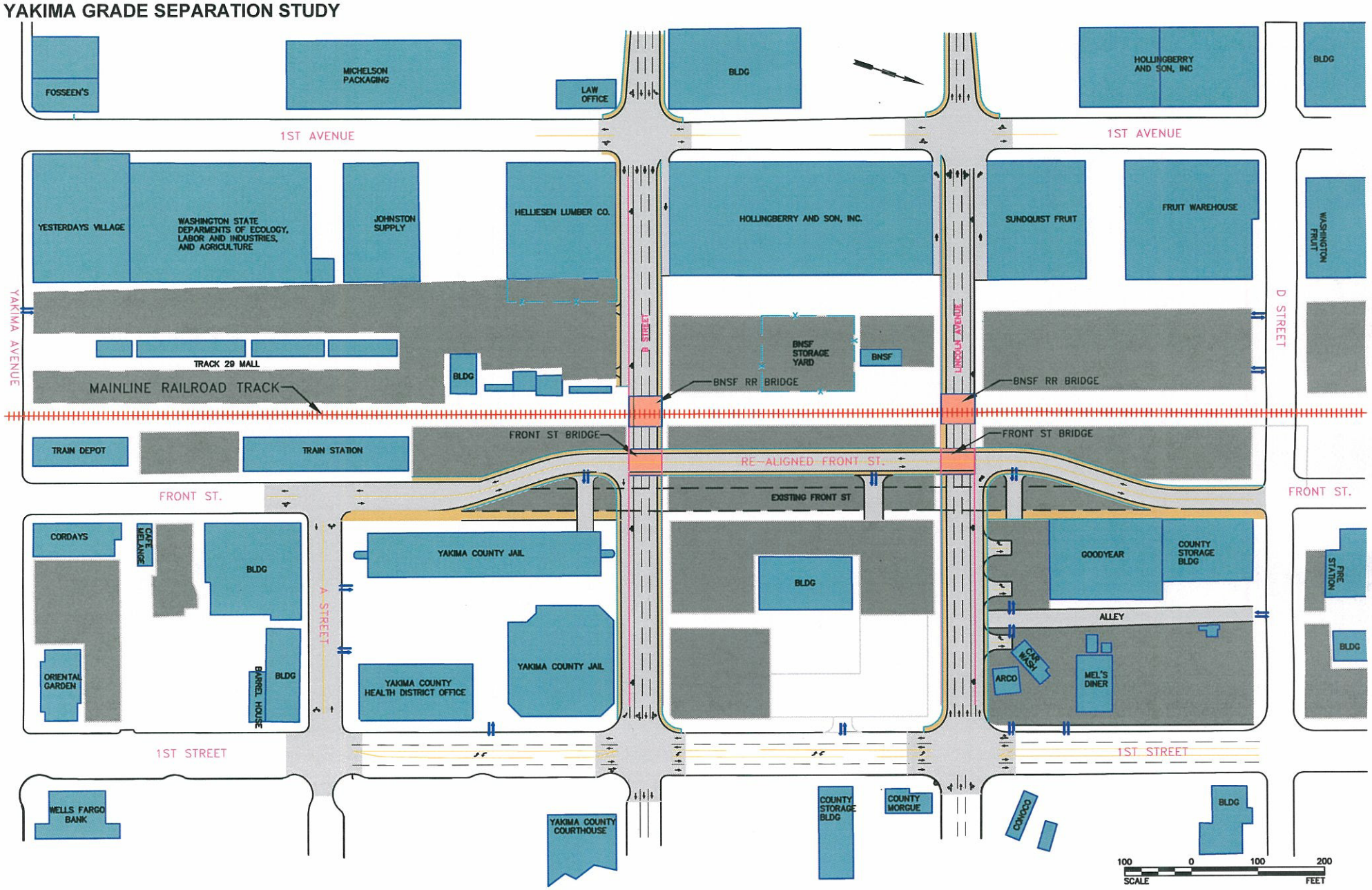
Construction is expected to take place from approximately January 2007 to December 2008. In addition to the 19 months in Stages 1 through 4B, there will be several months of utility relocations before Stage 1 and several months to close out the project after Stage 4B. No long term roadway closures are expected during these portions of the construction.

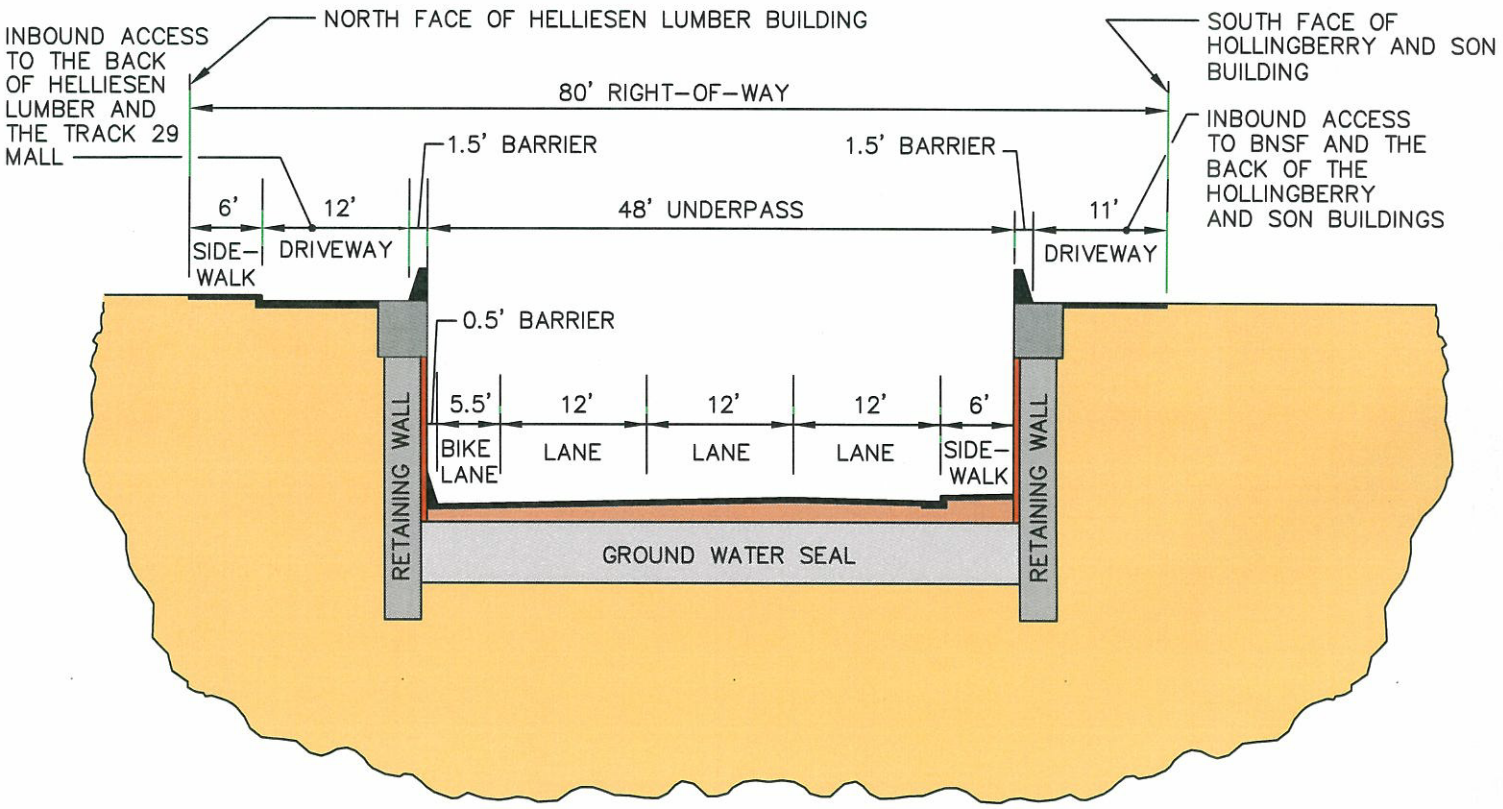
3.1.5 Project Objectives Met

Under the Preferred Alternative, transportation efficiency and traffic safety will be improved, future levels of use will be accommodated, and air and noise pollution will be reduced. Therefore, this alternative meets the project purpose and need.

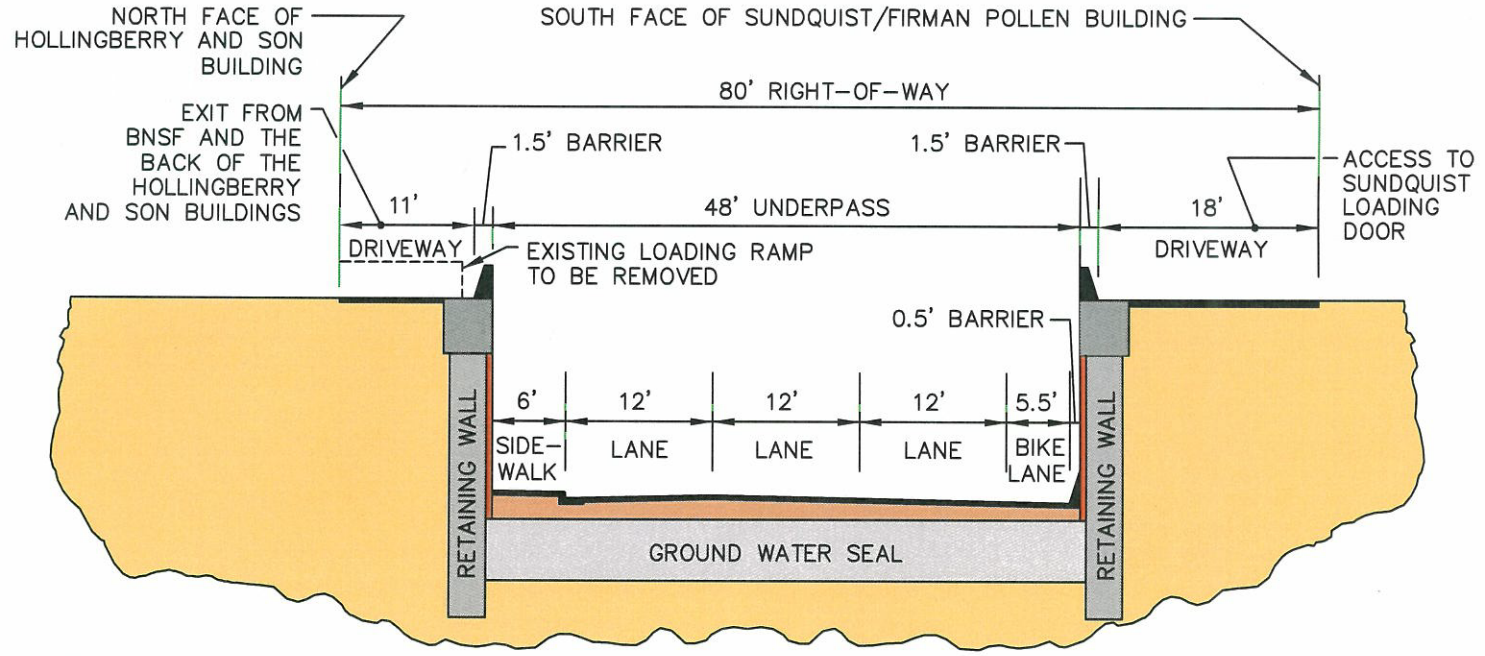
Anticipated impacts that will result from the Preferred Alternative are discussed in detail in Chapter 4. The Preferred Alternative will result in some negative impacts, primarily during construction. Anticipated impacts include access disruption, the relocation of part of one business, increases in noise and air pollution during construction, and potential impacts to cultural resources. However the Preferred Alternative is recommended for construction as it provides the maximum benefit relative to the purpose and need of the project while minimizing impacts as much as possible.

FIGURE 2:
FINAL CONFIGURATION OF GRADE SEPARATION PROJECT





B STREET NEAR 1ST AVENUE (LOOKING WEST)



LINCOLN AVENUE NEAR 1ST AVENUE (LOOKING WEST)

FIGURE 3

PREFERRED ALTERNATIVE TYPICAL SECTION

FIGURE 4:
STAGE 1 CONSTRUCTION - STREET CLOSURE

YAKIMA GRADE SEPARATION STUDY

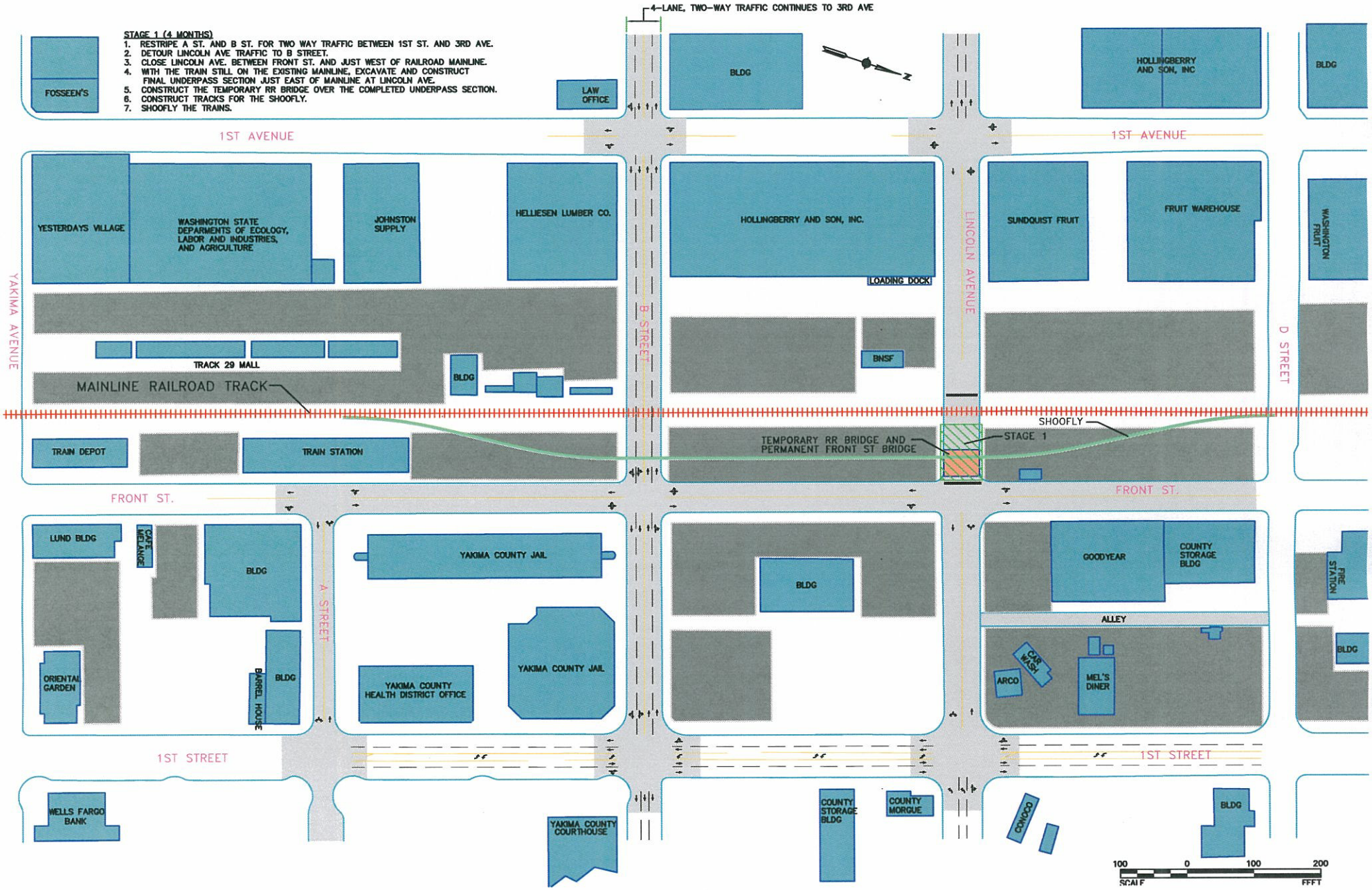


FIGURE 5:
STAGE 2 CONSTRUCTION - STREET CLOSURES

YAKIMA GRADE SEPARATION STUDY

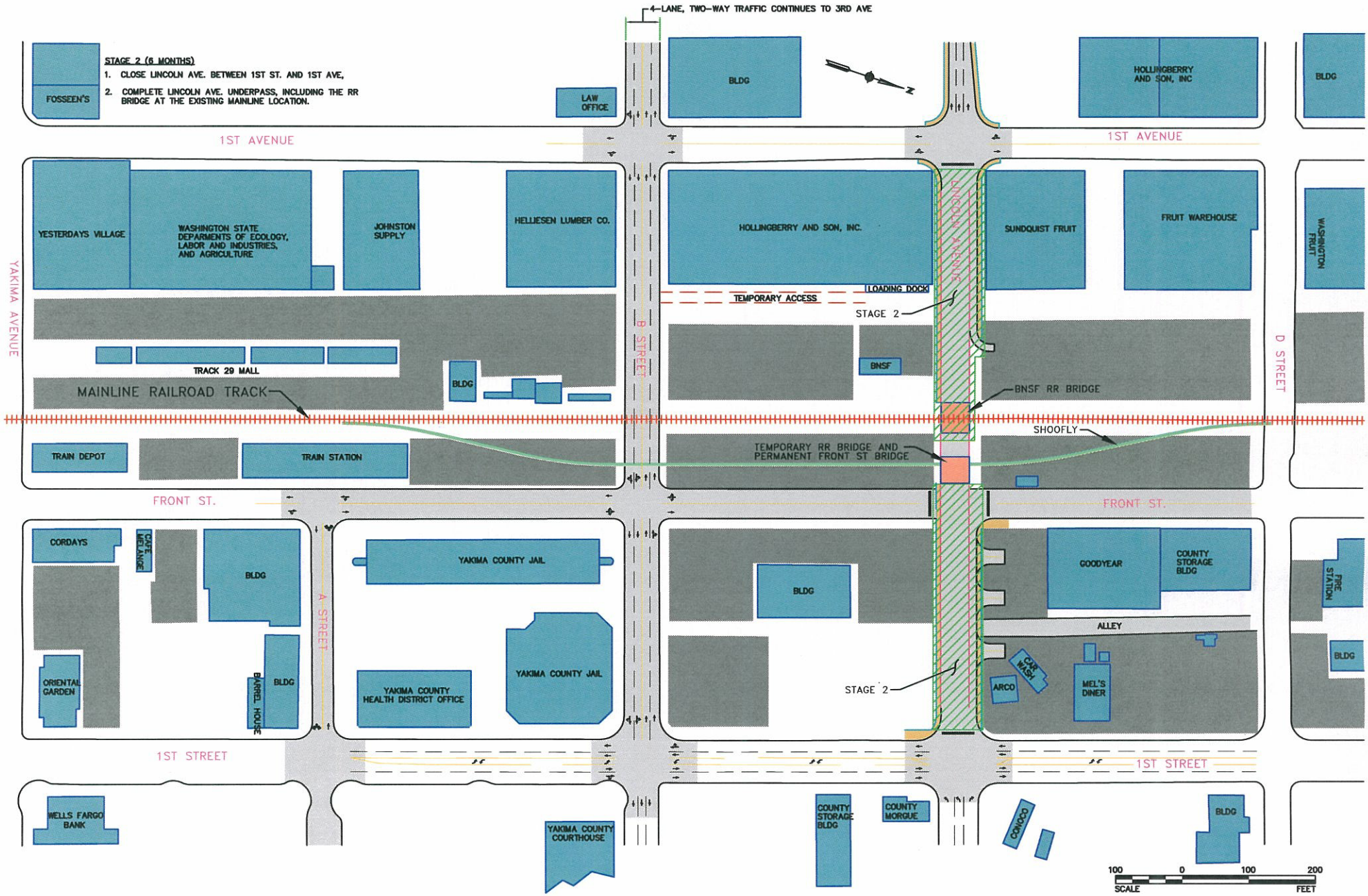


FIGURE 6:
STAGE 3 CONSTRUCTION - STREET CLOSURES

YAKIMA GRADE SEPARATION STUDY

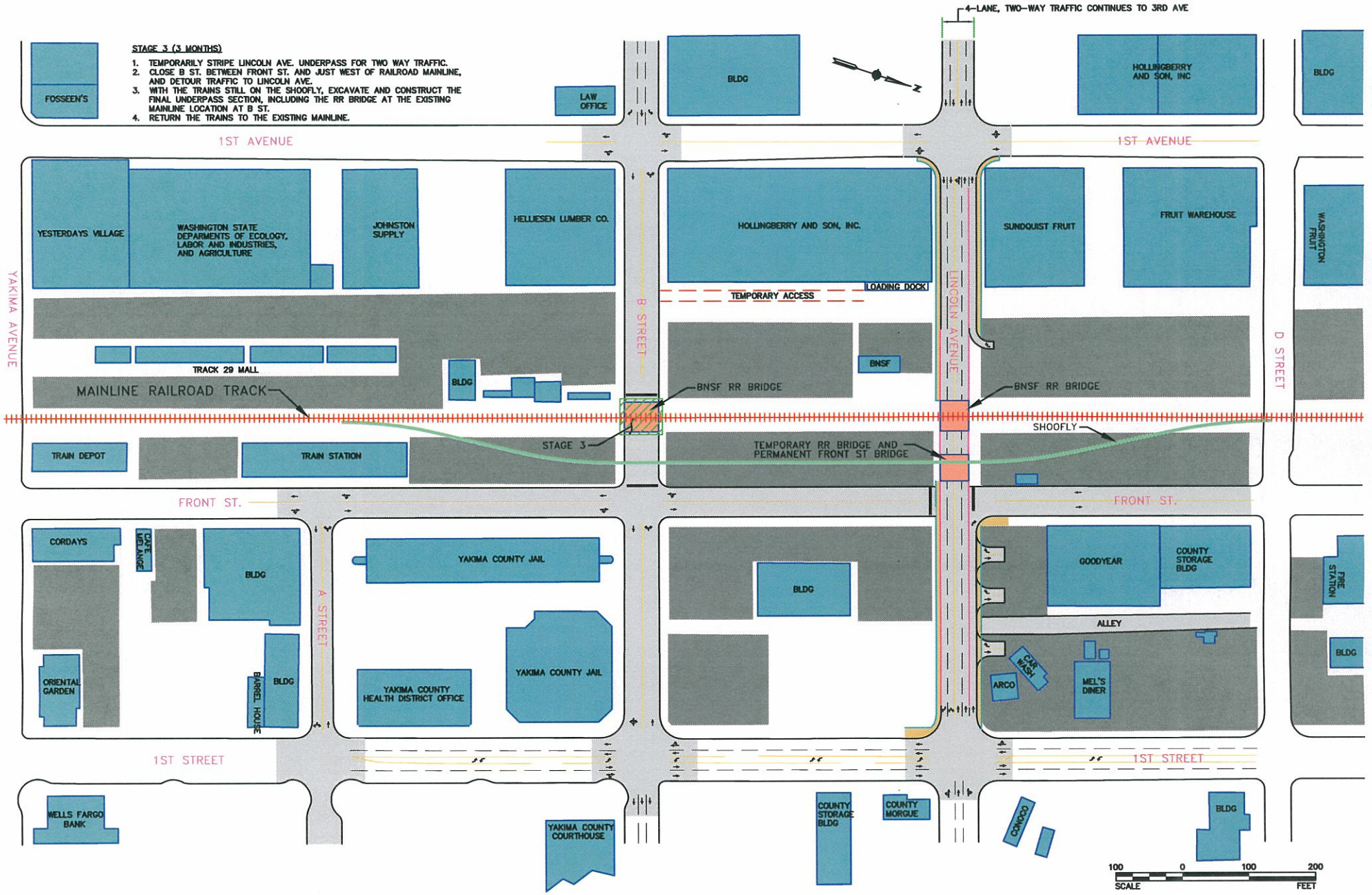


FIGURE 7:
STAGE 4A CONSTRUCTION - STREET CLOSURES

YAKIMA GRADE SEPARATION STUDY

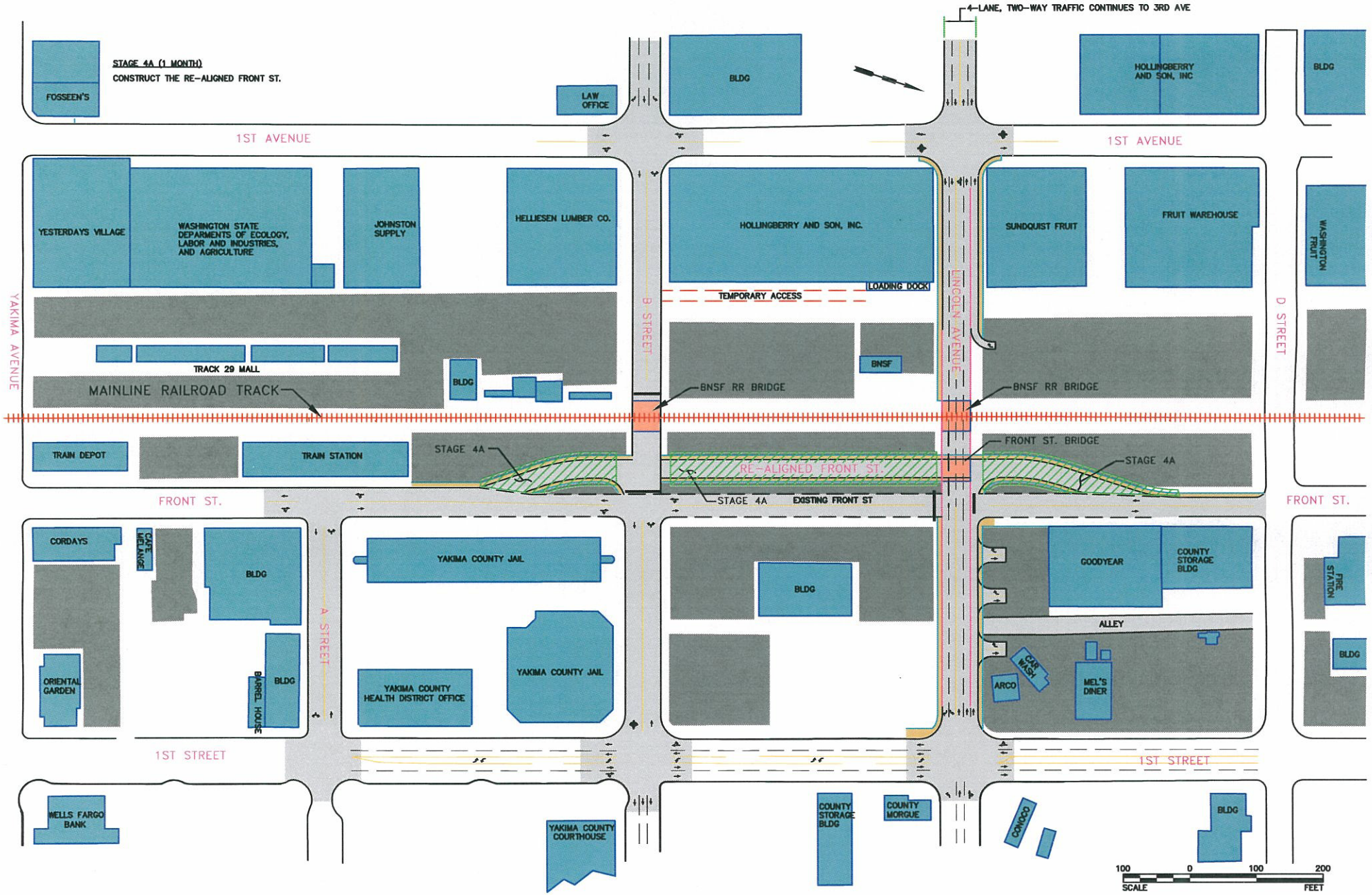
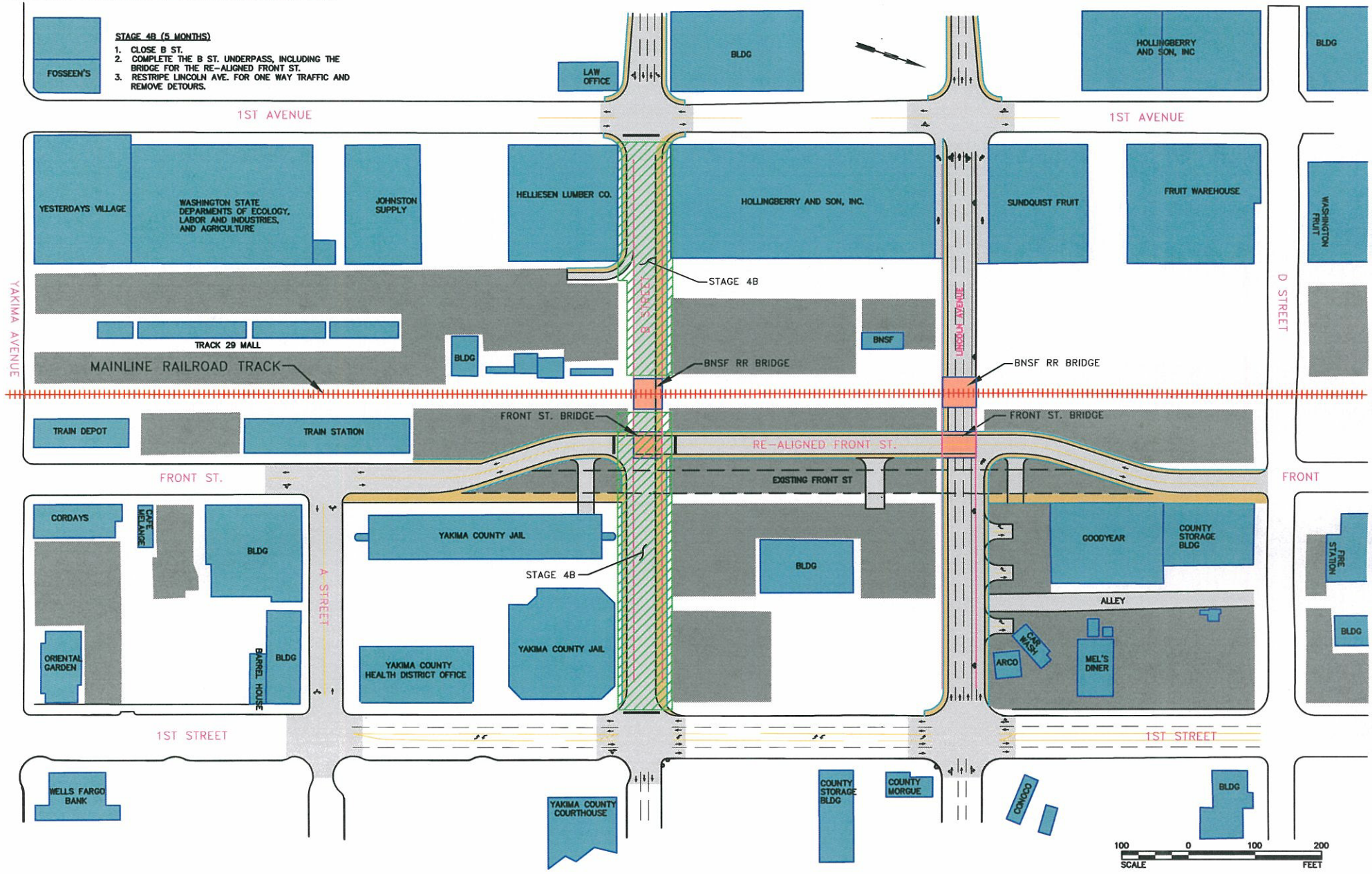


FIGURE 8:
STAGE 4B CONSTRUCTION - STREET CLOSURES

YAKIMA GRADE SEPARATION STUDY



3.2 What is the No Action Alternative? (Alternative 1)

Under this alternative, the rail would be maintained at-grade at Lincoln Avenue and B Street. This alternative does not improve transportation efficiency, accommodate future levels of service/use, improve safety, or reduce air and noise pollution. Therefore it does not meet the purpose and need of the project. This alternative would not result in any negative impacts, such as construction noise, access disruption, or business relocation nor would it result in any of the long term benefits of the project.

3.3 What other alternatives were considered?

This section describes alternatives considered under this project but rejected from further evaluation based on deficiencies relative to the purpose and need of the project and relative impacts.

3.3.1 Alternative 2: Lower Road under Railroad with Railroad at Existing Grade

Alternative 2a: Lower Road under Railroad only with Railroad at Existing Grade

Alternative 2a is the same as the Preferred Alternative except that it would lower the grade of the roadway at Lincoln Avenue and B Street under the existing grade of the railway only, and not under the grade of Front Street. Unlike the Preferred Alternative, Front Street will not be maintained as a north-south through street. This alternative meets the purpose and need of the project; however, it was rejected due to the greater negative effects on local businesses, as compared to the Preferred Alternative, resulting from Front Street not being maintained as a north-south through street. This alternative has a similar affect on air quality, the noise environment, ESA species, land use, and cultural resources as the Preferred Alternative.

Alternative 2e: Lower Road under Railroad with Railroad at Existing Grade (Reduce to Two Lanes in Underpass)

Alternative 2e is the same as the Preferred Alternative except that it reduces the number of traffic lanes from three 12-foot traffic lanes to two 12-foot traffic lanes. This alternative reduces ROW costs on Lincoln Avenue. However, because this alternative entails a transition from three to two lanes, congestion and higher likelihood of related traffic safety issues may occur. Additionally, congestion arising from the three-to-two lane transition may not accommodate future levels of service. Therefore, this alternative was rejected because it does not improve transportation efficiency or traffic safety to the same degree that the Preferred Alternative nor accommodate future levels of service.

3.3.2 Alternative 3: Close the Road at the Rail

This alternative entails closing Lincoln Avenue and B Street where they intersect with the rail. This alternative would require 23,600 ADT to find alternative routes across the railroad, subsequently increasing traffic volumes and congestion at other crossings. This alternative was rejected because it does not improve transportation efficiency, accommodate future levels of service, improve traffic safety or reduce air and noise pollution. Therefore, it does not meet the

purpose and need of the project. This alternative avoids the negative construction related impacts such as noise, air pollution, business relocation, or access disruption but it would not result in any of the long term benefits of the Preferred Alternative. This alternative may worsen existing issues such as transportation efficiency, air pollution, and safety by increasing congestion at other crossings.

3.3.3 Alternative 4: Raise the Road over the Rail

Under this alternative, the rail is retained at its current grade and Lincoln Avenue and B Street would be raised over it (overpasses). The overpasses would require extensive walls to allow the road to be elevated without impacting the adjacent buildings and require bridge structures over the rail. This alternative was rejected due to the close proximity of businesses along these roads and the distance from the tracks to First Street and First Avenue. As trains need 23 feet of clearance as opposed to 16.5 feet of clearance for roadway traffic, the limits of an overpass would extend much farther than an underpass in order to gain the elevation necessary to clear the tracks. The overpasses would be about 400 feet (50%) longer than the Preferred Alternative underpasses (assuming 8% grades for both). This increase in length means that access disruptions would extend to about seven additional businesses that are currently outside the area of access disruption. First Avenue and First Street would need to be raised in grade in the project vicinity to tie them into B Street and Lincoln Avenue affecting access to several more businesses including two in the historic district, the Yakima County Courthouse, and several along Fruit Row. The overpasses have a greater area of impact than the underpasses, are visual intrusions on the landscape, and directly impact more businesses than the Preferred Alternative.

3.3.4 Alternative 9: Extend Tieton Drive

This alternative entails extending Tieton Drive to South Front Street. Refer to Figure 9 for a map showing the location of this alternative. A new overpass would be constructed over the railroad tracks. This alternative was rejected because it is too far south to significantly improve traffic, emergency response delays, and air pollution in the central business district (CBD). Since an underpass already exists at Walnut Street, and Walnut Street lies between Tieton Drive and the CBD, Alternative 9 would not measurably alter existing traffic conditions in the CBD, thus not meeting the purpose and need of the project. Furthermore, funding from FMSIB and BNSF would not be available for this project as their funding is tied to grade separating existing at-grade crossings. This connection would be about twice the length of the B Street and Lincoln Avenue underpasses combined, have a much larger area of impact than the Preferred Alternative, require demolition of at least four warehouses, and cost more to construct than the B Street and Lincoln Avenue underpasses combined, while providing less grade-separated traffic capacity (two lanes in each direction as compared to three lanes in each direction under the Preferred Alternative). However, construction of this alternative would not negatively impact businesses located in downtown Yakima and would not have the potential to impact the Hollingberry and Son Building.

3.3.5 Alternative 10: Extend Fruitvale Boulevard

This alternative would entail extending Fruitvale Boulevard over the railroad tracks from Fifth Avenue to First Street. Refer to Figure 9 for a map showing the location of this alternative. As with the similar proposal for Tieton Drive, this connection would be about twice the length of the B Street and Lincoln Avenue underpasses combined, have a much larger area of impact than the Preferred Alternative, result in less grade-separated capacity (two lanes in each direction as compared to three lanes in each direction under the Preferred Alternative), and not be eligible for funding from FMSIB and BNSF. In addition this alternative would require the demolition of several residences and bisect Roche Fruit's operations. Due to the significantly higher impacts and costs associated with this alternative, it was rejected from further consideration as an alternative to the proposed B Street and Lincoln Avenue underpasses. However, this alternative is still being considered by the City and County as a potential future corridor. Construction of this alternative would not negatively impact businesses located in downtown Yakima nor impact the Hollingberry and Son Building.

3.3.6 Alternative 11: Build Underpasses at D Street and Lincoln Avenue

This alternative entails building underpasses at D Street and Lincoln Avenue rather than at Lincoln Avenue and B Street. This alternative was rejected from further consideration as it results in significantly higher impacts and costs than the Preferred Alternative. D Street is not a good substitute for B Street. As Lincoln Avenue is a one-way street, it requires another one-way street to be paired with it, in order for it to function properly. One-way streets are generally used to reduce congestion, increase the capacity of the roadway network and improve safety. However, two-way streets provide better circulation as lanes for both directions of travel are located immediately adjacent to one another. In order to attain the benefits of reduced congestion, increased capacity, and increased safety, while maintaining the best possible circulation, one way streets are paired. The paired streets are located as close together as possible, generally within one block of one another. If D Street were paired with Lincoln Avenue versus B Street, D Street would need to undergo extensive improvements over 16 blocks to change it into a one way arterial. In addition, the interchange with I-82 would need to be reconstructed to accommodate D Street instead of B Street. Changes along D Street would not only be costly but also impact residents and businesses along 16 blocks on both B Street and D Street due to the dramatically changed traffic on both streets. Grade separating D Street requires the relocation of the fire station and Washington Fruit and Produce's loading dock. This alternative also has the potential of impacting the Hollingberry and Son Building on Lincoln Avenue.

3.3.7 Alternative 12: Move the Railroad Track to the West

This alternative entails moving the BNSF railroad track farther west in the project vicinity (to the western edge of BNSF's property). Under this alternative, underpasses would still be constructed under the railroad track on Lincoln Avenue and B Street but with full intersections being maintained at Front Street. This alternative does not meet the purpose and need of the

project as well as the Preferred Alternative, resulting in significantly higher impacts and costs than the Preferred Alternative. Under this alternative, the efficiency and capacity of transportation by road may not be improved as much as under the Preferred Alternative as First Avenue would be cut off from B Street and Lincoln Avenue. Moving the track that far west would mean that B Street and Lincoln Avenue would be too low in grade to allow access to be maintained to First Avenue. First Avenue is important as it provides truck access to and from Fruit Row. Part of the purpose and need for this project is to improve freight mobility to and from Fruit Row. Therefore sacrificing access to First Avenue for the sake of access to Front Street is contrary to the project's purpose and need. Under this alternative the Walnut Street underpass would also have to be rebuilt as in order to maintain the intersection of Front Street with B Street and Lincoln Avenue, the rail track would need to be moved to the western edge of BNSF's ROW. Because trains can only operate on large radius curves, the tracks could not cross B Street at the western edge of the ROW in the project area and then curve back east quickly enough to cross Walnut Street on the present bridge. Therefore the bridge and entire underpass at Walnut Street would have to be rebuilt farther west. Aside from reducing impacts to businesses along Front Street, this alternative would result in similar impacts as the Preferred Alternative and would also result in serious impacts to the Track 29 Mall and Washington Fruit and Produce as the new track would run right through the Washington Fruit and Produce's loading dock and through the Track 29 Mall.

3.3.8 Alternative 13: Grade Separate Lincoln Avenue or B Street

Under this alternative, only B Street or Lincoln Avenue is grade separated. There are three ways to do this for each street, resulting in six separate sub-alternatives. The following discussion is limited to the three ways of grade separating only Lincoln Avenue as the three ways of grade separating only B Street are essentially the same. However, grade separating only Lincoln Avenue rather than only B Street better meets the purpose and need of the project, therefore Lincoln Avenue rather than B Street has been chosen for discussion. Grade separating only Lincoln Avenue provides better access for the fire department to areas west of the tracks, than grade separating only B Street.

Alternative 13a: Grade Separate only Lincoln Avenue and Maintain One-Way Couplet

Under this alternative, only Lincoln Avenue is grade separated and Lincoln Avenue and B Street are maintained in their current configuration (3-lane; one-way couplet). Under this alternative, the efficiency and capacity of transportation by road are improved in a westbound direction but are not improved in an eastbound direction. Eastbound traffic on B Street would still be impeded by trains. Therefore citizens traveling from the west into the downtown area do not benefit from this alternative. Vehicles making round trips, such as trucks making pickups and deliveries to the fruit warehouses, benefit in one direction but not in the other. However, this alternative results in fewer impacts than the Preferred Alternative. Construction of this alternative results in less ground disturbance, less air and noise pollution, would not be as expensive to build, and could be completed over a shorter period of time. The potential for the Hollingberry and Son Building to

be impacted during construction is still present and access to the ARCO Station/Lincoln Avenue Car Wash and to Goodyear are still be impacted.

Alternative 13b: Grade Separate only Lincoln Avenue and Convert to Two-Way

Under this alternative, only Lincoln Avenue is grade separated. It would be widened and converted to a two-way roadway with two lanes in each direction. B Street would be maintained as a one-way street. The efficiency and capacity of transportation by road is not improved under this alternative. As westbound movement is reduced from three lanes to two lanes, capacity of the roadway is actually reduced. The need to widen the road to accommodate an extra travel lane plus a turning lane results in greater impacts to businesses along Lincoln Avenue. However, businesses along B Street are no longer be impacted. Due to the need to widen the roadway, this alternative requires more ground disturbance than the Preferred Alternative. The potential for the Hollingberry and Son Building to be impacted during construction is still present and access to the ARCO Station/Lincoln Avenue Car Wash and to Goodyear are still be impacted.

Alternative 13c: Grade Separate only Lincoln Avenue and Convert both Streets to Two-Way with Two-Lanes each Direction

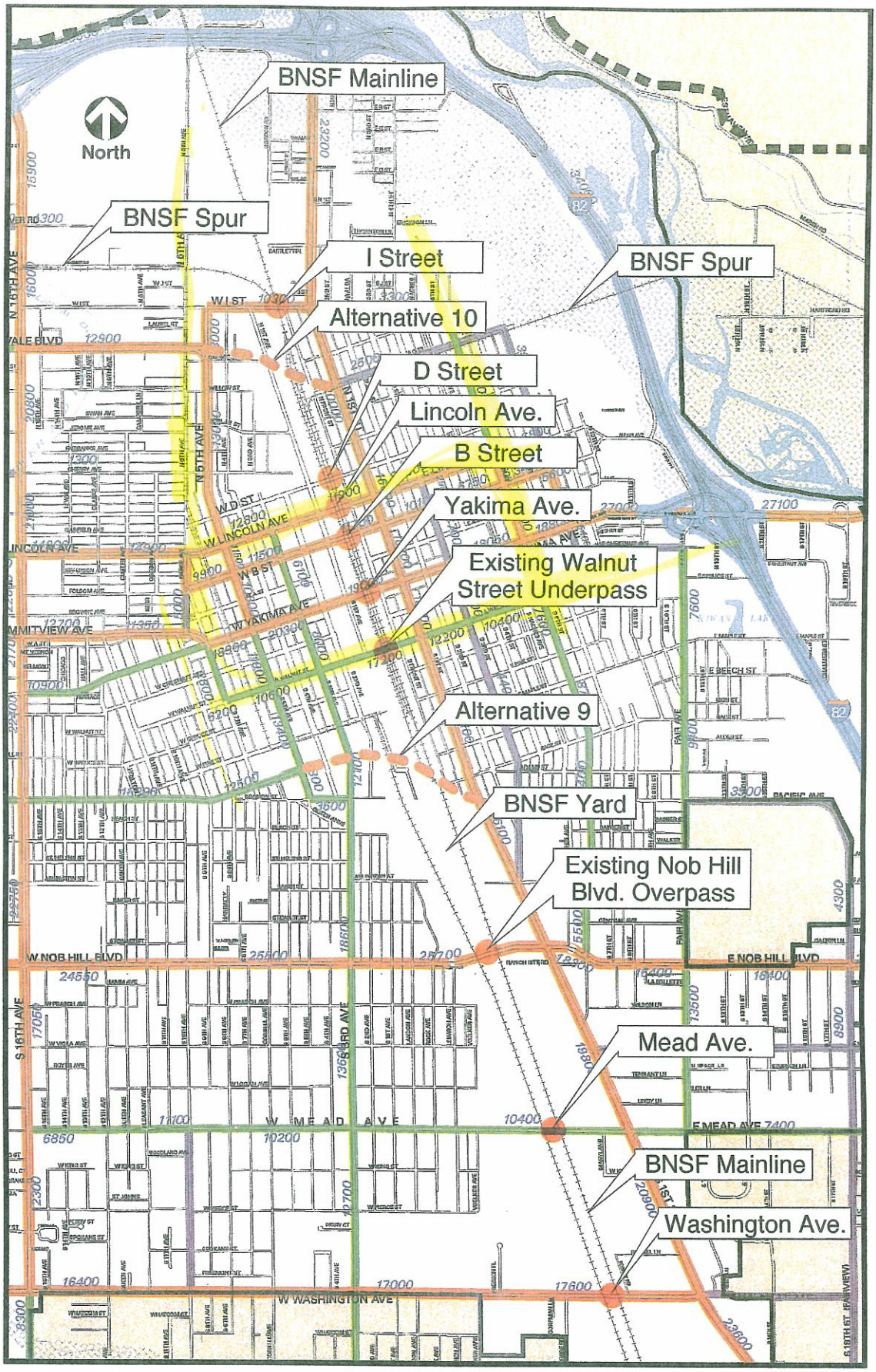
Under this alternative, only Lincoln Avenue is grade separated but both Lincoln Avenue and B Street are widened and converted to four-lane roadways with two lanes in each direction. As discussed below, this alternative does not improve and would likely impede the efficiency and capacity of transportation by road, vehicular safety, and air pollution.

The capacity of urban arterial streets to accommodate traffic volumes and safety is dependent on the number of through lanes, turning lanes and movements, signalization and number of driveways. One-way streets are generally used to reduce congestion, increase the capacity of the roadway network and improve safety. Conversion of the existing one-way couplet to two-way vehicle circulation reduces average travel speed on the subject streets primarily due to the introduction of turning movements and delay not currently experienced on the one-way street pattern. One-way streets permit higher average travel speeds because traffic signal progression can be more efficient and delay is reduced, as the need for left turn phases is reduced or eliminated. Traffic on two-way streets has higher delay due to left turning movements, both at intersections (both signalized and non-signalized) and along the corridor. Due to the reduction in left turn movements, one-way streets have fewer potential conflict points than a two-way street, often resulting in fewer vehicle collisions and pedestrian conflicts. The conversion from the one-way to two-way pattern impacts air pollution. Vehicle emissions increase at lower speeds and with idling.

In addition, under this alternative, a fifth center left turn lane needs to be constructed on B Street and Lincoln Avenue at the intersections with First Avenue and First Street. The width of this five lane section precludes any possibility of keeping the proposed at-grade frontage roads. Therefore, the frontage road access along Lincoln Avenue that is included as part of the Preferred Alternative as mitigation for access impacts to Sundquist Fruit and Goodyear Tire is lost.

Subsequently, access impacts to these businesses are much greater than under the Preferred Alternative. The ROW acquisition costs are also greater under this alternative as compared to the Preferred Alternative.

Existing bicycle lanes and on-street parking are also be eliminated due to the need to widen the road to accommodate two-way traffic with a center turn lane and four travel lanes. Widening the roads results in a greater area of ground disturbance than under the Preferred Alternative, impacts a greater number of businesses, and increases the likelihood of impacting cultural resources. This alternative results in significantly more impact to surrounding land uses than the Preferred Alternative.



City of Yakima Railroad Grade Separation Project

Alternatives 9 and 10 and BNSF Operations

Figure 9

3.4 Value Engineering Study

A Value Engineering Study was conducted on the project in July 2005. This section describes the VE process and the results of the VE study for this project. The Final Value Engineering Report is available from the City of Yakima.

3.4.1 What is Value Engineering?

Value Engineering (VE) is defined by WSDOT as "a systematic application of recognized techniques by a multidisiplined team to identify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking, and provide the needed functions to accomplish the original purpose; thus assuring the lowest life cycle cost without sacrificing safety, necessary quality, or environmental attributes. Value Engineering is sometimes referred to as Value Analysis (VA) or Value Management (VM). (WSDOT 1998 Design Manuel, Section 315.03)

3.4.2 What was the composition of the VE team for this project?

The VE team was selected by the City of Yakima, and was comprised of individuals with disciplinary expertise relevant to the nature of the project, including traffic, constructability, utilities, geotechnical, design, structural, and civil. The VE team was led by Value Management Strategies, Inc, and included City staff, private consultants and an engineer from the Washington State Transportation Improvement Board.

3.4.3 How was the Value Engineering Study conducted?

The VE study included the following phases: Information, Function Analysis, Creative, Evaluation, Development, and Presentation. The Information Phase included a review of the project and its operational requirements, and a detailed review of the design and the various systems. The Function Analysis Phase consisted of analysis of the functional requirements of the project design in terms of cost and design. The Creative Phase involved identifying as many means as possible to provide the necessary functions within the project. No judgment of the ideas is made during the Creative Phase. During the Evaluation Phase, the ideas generated during the Creative Phase were evaluated against key criteria previously identified by the City of Yakima and their design consultants for this project. Those key evaluative criteria are listed below:

- Minimize Impacts on the Local Neighborhood
- Simplify Construction
- Integrate with Neighborhood
- Minimize Impacts on Commuters
- Minimize Maintenance
- Improve Schedule

Each idea was tested and ranked with respect to these criteria to determine if it added or removed value from the original concept. Ideas with high rankings were further developed, while those with low rankings were dropped from further consideration. During the Development Phase, those ideas still under consideration were expanded into a workable solution, along with a recommended design, lifecycle cost comparisons, a descriptive evaluation of the advantages and disadvantages of the proposed alternatives, and comparison to the original design. The alternatives developed during the VE study were then presented to the City of Yakima in the Preliminary Value Engineering Study Report for review. Comments from the City were incorporated into the Final Value Engineering Study Report and results of the study were submitted to the Transportation Improvement Board.

3.4.4 What were the results of the Value Engineering Study for this project?

The VE Team identified eighteen potential design modifications for the project. Estimated cost revisions for the design modifications varied between adding $682,000 to saving $4,666.000. The eighteen potential design modifications are summarized below:

- Use a Through Plate Steel Girder Structure Type for the Railroad Bridge
- Use Secant Piles for Underpass Walls
- Use Tremie Seal and Uplift Piles for Underpass Bottom Slab
- Eliminate One Traffic Lane within each underpass
- Raise Railroad grade between Yakima Avenue and D Street
- Elevate Front Street – Do Not Relocate
- Elevate Bike/Pedestrian Path in Underpass
- Separate Bikes and Pedestrians in Underpass
- Eliminate Frontage Road along Sundquist Fruit Property
- Use alley to access Goodyear
- Use 14-Foot Lanes along Front Street Bridges
- Restrict use of brick pavers to Front Street between Yakima Avenue and A Street
- Do not reconstruct Front Street between B Street and Lincoln Avenue, (local access only)
- Detour One-Way Traffic onto Yakima Avenue and D Street
- Detour One-Way Traffic onto Yakima Avenue and D Street so that both the Lincoln Avenue and B Street Underpasses could be constructed concurrently with use of an at-grade shoofly.

- Construct two overpasses
- Construct a combined overpass between B Street and Lincoln Avenue
- Construct a combined underpass between B Street and Lincoln Avenue

The VE Study alternatives were reviewed by the design team and a preliminary disposition for each alternative was arrived at based on project goals and objectives. The preliminary dispositions were reviewed by the Project Guidance Team (PGT) and adjusted per the PGT consensus. The alternative to narrow each underpass to two lanes was studied further, but was ultimately rejected as contrary to the goal of improved traffic flow. The alternative to close both B Street and Lincoln Avenue at the same time was also studied further. It was also ultimately rejected due to impacts to businesses on Yakima Avenue and D Street due to greatly increased volumes on those streets. The final recommendations were reviewed with the Transportation Improvement Board and the following measures have been incorporated into the Preferred Alternative design:

- Allow use of secant piles for underpass walls
- Allow use of tremie seals and uplift piles for underpass bottom slabs
- Separate bikes and pedestrians in underpasses
- Narrow each underpass three feet
- Use 14 -foot lanes along the Front Street Bridges
- If ARCO/Lincoln Avenue Car Wash is bought out by the City, then the alley east of Goodyear will be used to modify and improve access to Goodyear.

4. Impacts and Mitigation

This chapter describes elements of the environment, and analyzes impacts to each element from the proposed project for the Preferred Alternative and for the No Action Alternative. The analysis includes ecological impacts (such as the effects on natural resources), social, economic, historic, cultural, aesthetic, or health impacts, whether direct, indirect or cumulative. Proposed measures to minimize impacts are also discussed.

Discipline reports have been prepared to analyze the impacts of the project on certain elements of the environment. Discipline reports were prepared for transportation, economic, environmental justice, cultural resources, and hazardous materials. These discipline reports are included in the appendices and are incorporated by reference in this EA.

Direct impacts are those caused by the proposed action and occurring at the same time and place.

Indirect (secondary) impacts are caused by the proposed action that is later in time or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (40 CFR 1508.8).

A cumulative effect (impact)[2] is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR Part 1508.7).

Indirect and cumulative impacts in this EA are analyzed based on geographic and temporal boundaries determined from the transportation analysis, except for land use impacts which were analyzed based on the extent of the Central Business District (CBD) described in section 4.1. The geographic boundary was determined from models of traffic volumes and patterns in and around the project area during each phase of construction, which were used to define the "area of influence." The area of influence is defined as the project area, plus surrounding streets/blocks that will experience a change of at least 10 percent in traffic volumes. During construction this area is contained predominantly between Yakima Avenue and D Street and between Fifth Avenue and Fifth Street. Once construction is complete the area of influence extends from Walnut Avenue to D Street and from Fifth Avenue to Fifth Street. A detailed description of the area of influence can be found in Phase II of the Economic Analysis (Appendix E). The temporal boundary takes into account both historical development in the project area, including other grade separation projects, and future impacts based on the transportation impact analysis. For

[2] Note: Under NEPA the terms 'effect' and 'impact' are used synonymously.

the transportation analysis, a horizon year of 2030 was determined based on the City's need to evaluate the capacity and operation impacts of the proposed project 20 years beyond anticipated completion.

4.1 Land Use

This section describes current land use and zoning designations in the project area, as well as existing local land use plans and policies related to the proposed project. Land use impacts and mitigation measures that will be incorporated as part of this project are also discussed in this section.

4.1.1 What are the existing land use patterns in the area?

The project is generally located in the City of Yakima's CBD, which is the region's center for commerce, cultural and governmental land uses. The "CBD" is defined as the area within the following boundaries: The west curb line of 6th Avenue, the south curb line of Walnut Street, the east curb line of 6th Street, and the north curb line of Lincoln Avenue. (Ord. 2735 § 2 (part), 1983) The CBD and adjacent area is intensively developed with a mixture of urban land uses, including retail, office, institutional, light industrial, warehousing and distribution, and a wide variety of commercial activities. The BNSF railroad tracks, and associated at-grade rail crossings, are significant land use features as well; the tracks effectively bisect the CBD. Land uses adjacent to the railroad tracks are typically heavier commercial and industrial in character, and include wholesale and warehousing.

The central core is generally a concentration of intensive retail, office and institutional land uses. The "Core business district" is defined as the area within the following boundaries: the east curb line of 1st Street, the north curb line of Walnut Street, the west curb line of 6th Street, and the south curb line of "B" Street. (Ord. 2735 § 2 (part), 1983) As one travels out from the core in any direction, the types of existing and permitted land uses change, and the intensity of land uses gradually diminishes. In general, less intensive commercial uses are located adjacent to the CBD and along major arterials; these eventually transition to multi-family and single family residential neighborhoods. Some areas abutting the core, including the area of the proposed project, are characterized by land-intensive wholesale, warehousing and transportation activities that support land uses in the CBD.

A number of historic buildings are concentrated in a one-block area to the east of the project area (generally between E. Yakima Avenue and A Street and N. First Street and N. Front Street). Several isolated historic buildings are also dispersed in other locations throughout the CBD and adjacent areas.

The Yakima Mall is located in the CBD, approximately six blocks southeast of the project area. A major portion of the Mall is currently vacant. In 2001, three department stores anchoring the Mall either moved to the Valley Mall in Union Gap or left the Yakima market. Since that time, retail (and much residential) growth have focused in neighborhoods located several miles west of

the CBD, which has caused some stress to existing businesses in the CBD. Portions of the Mall are currently used for offices and call center operations. A new Hilton Hotel is currently proposed in another vacant portion of the Mall. Detailed information about vacancies in the CBD is not available.

Existing land uses in the eight city blocks surrounding the project area (from D Street to Yakima Avenue and from First Street to First Avenue) include a mixture of retail, wholesale, warehousing, transportation, office / business and scattered small multi-family residential buildings. A list of specific businesses is included in Appendix E. Applicable land use and zoning designations are described in greater detail below.

4.1.2 What are the local land use plans, policies and regulations applicable to the proposed project?

The key plans, policies and regulations applicable to the project are the City of Yakima's Urban Area Comprehensive Plan and Future Land Use Map and the City zoning ordinance. Key provisions of these land use tools are summarized below, while consistency of the proposed project with these provisions is addressed in Section 4.1.5.

City of Yakima Urban Area Comprehensive Plan (1997)

The City's Comprehensive Plan was adopted to manage future growth of the City and its urban service area, and to comply with the goals and requirements of the Growth Management Act (RCW 36.70A). The Plan contains "elements" or chapters pertaining to Land Use and Transportation; goals and policies on these topics relevant to the proposal are summarized below.

Land Use Element Policies

L2.3 Promote the preservation, restoration and enhancement of historic, cultural and archaeological resources. Implementing actions include evaluating the impacts of proposed land use actions on designated sites.

L3 Maintain the CBD as a vital and primary business area.

L3.1 Encourage the establishment or significant expansion of new retail and business inside the CBD.

L3.2 Strive to make the downtown a safe, comfortable, clean and convenient place.

L3.4 Recognize the CBD core as a pedestrian oriented destination that requires vehicle traffic needs to be balanced with those of the pedestrian.

Transportation Element Goals and Policies

T1 Develop a transportation system that provides a wide range of efficient, safe and economical alternatives for movement of people and goods within, to and from the Yakima area.

T2.2 Manage vehicular circulation and parking to support CBD functions without dominating the downtown or detracting from its pedestrian orientation.

T4.1 Coordinate land use planning to ensure that industrial and commercial uses are placed where transportation accessibility is or is planned to be greatest.

The Transportation Element notes that rail service dramatically increased in intensity and duration during December, 1996. Average delays have increased and have created an issue for emergency service providers. Rail service issues will be addressed in a future update of the City's Plan.

Comprehensive Plan Future Land Use Map

Land use designations applicable to the project area and adjacent area are shown on Comprehensive Plan Map III-3. The purpose of these designations is summarized below.

CBD Core Commercial: Provides for a variety of intense retail, office institutional and high density residential land uses to meet the objective of maintaining the CBD as a vital and primary business area. Encourages supportive land uses which foster the regional nature of the CBD.

Arterial Commercial: Land uses which require high auto visibility such as restaurants, service stations, car washes, and wholesale and retail activities.

Professional Office: Financial institutions, real estate, insurance, engineer, legal, medical offices and similar business uses.

Wholesale/Warehouse: Quasi-industrial areas which provide for a mixture of wholesale and warehousing activities, as well as some limited office and retail.

Industrial: Mixture of land uses including construction businesses, manufacturing, transportation, communication and utilities.

Yakima Area Zoning Ordinance (Chapter 15 Yakima Municipal Code)

The project area is comprised of or abuts four zoning districts: Central Business District, Central Business District Support, Light Industrial, and Professional Business. These are similar to, and are intended to implement, the designations of the Comprehensive Plan Future Land Use Map. In some instances, several Comprehensive Plan designations may be encompassed by a single zoning district (e.g. the Light Industrial zone includes the Wholesale / Warehouse land use designation, and CBD Support zone includes the Arterial Commercial land use designation). The purpose and major characteristics of each zone are described below.

Central Business District (CBD): Intended to preserve the downtown as the region's center of commerce, industry, recreation and culture. Characterized by very intensive development and a variety of land uses including retail sales and service establishments, high density residential development, financial institutions, professional buildings and government offices.

Central Business District Support (CBDS): Primarily located near the CBD and along major arterials, this district is intended to accommodate wholesale and retail activities with some high density residential development. A variety of land uses are permitted but at somewhat lower intensity than the CBD.

Light Industrial (M-1): Provides areas for light manufacturing, processing, research and wholesale trade, storage and distribution facilities. The intent is to establish areas near truck routes, freeways and the railroad for such uses and to minimize conflicts with surrounding uses.

Professional Business (B-1): Generally provides for professional offices and, in appropriate areas, a mix of office and multi-family dwellings.

4.1.3 How will construction affect land use patterns in the area?

Construction activities, and resulting detours and traffic, would temporarily limit access to some land uses and increase congestion in the project area. Construction generated dust and noise could cause annoyance or inconvenience to businesses and visitors. In some instances, traffic and changes or limitations in access or parking could also temporarily discourage some number of shoppers or customers and curtail business in the affected area. Directly or indirectly, these effects could negatively impact some businesses. Those businesses that are economically fragile or marginal may not survive. Others could seek to relocate.

4.1.4 How will operation of the project affect land use patterns in the area?

Preferred Alternative

The Preferred Alternative may displace one or two existing businesses and relocate part of a second business. Direct long-term effects to land uses would be limited. The project, a realignment of an existing street for safety and mobility purposes, is not of a type or magnitude that is likely to change or disrupt existing or planned land-use patterns area-wide or limit planned growth or economic development activities. Similarly, it is not the type of land use that would be likely to attract incompatible uses to the CBD. Overall, there would be less congestion, enhanced safety, and improved pedestrian circulation in the CBD as a result of constructing the Preferred Alternative. The Preferred Alternative would support and be consistent with the CBD land use pattern and planned and existing land uses, including the historic district. Assuming that land uses will not change as a result of the proposal, and that growth occurs pursuant to the City's Comprehensive Plan and zoning designations, there would be no adverse impact to the integrity of existing historic buildings.

The Preferred Alternative would also make access more difficult for some businesses and improve access for others. (See Appendix E, Phase 1 report.) Access to some businesses along Lincoln Avenue and B Street and along Front Street, for example, would be altered (See Appendix E). While adequate access would be provided, some businesses that might be financially fragile (because of the mall's closure or other economic factors) could be negatively

affected and/or close. While some individual businesses could be affected, the properties would remain viable for commercial use and the access changes are not expected to contribute to a change in the local land use pattern.

Many land uses within the CBD are unique, particularly those of a governmental, institutional or cultural nature. This uniqueness creates demand and makes them resilient to change and to the types of impacts expected to occur. Overall, direct and indirect land use impacts within the eight blocks surrounding the project area and the CBD are expected to be minor.

No Action Alternative

Under the No Action Alternative, no impacts to land use would occur as a result of this project. Over time, however, increased congestion in the downtown area caused by periodic backups at the at-grade railroad crossings could cause temporary inconvenience to shoppers and have potential effects on the vitality of downtown businesses.

4.1.5 Will the project be consistent with applicable land use plans & policies?

The following discussion addresses the consistency of the proposed project with the land use plans and policies summarized in Section 4.1.2.

City of Yakima Urban Area Comprehensive Plan

Land Use Element Policies

L2.3 This EA will allow the City of Yakima to evaluate potential impacts to historic, cultural or archaeological resources, which will further implementation of Policy L2.3. No known resources are located within the project area. Historic buildings in the immediate area include: the Hollingberry and Son Building (corner Lincoln Avenue and First Avenue), the CBD Historic District (generally located between W. Yakima Avenue and A Street and N. Front Street to N. 1st Street), and several isolated historic buildings (zoned HB) in the general project vicinity (N. 5th between Willow and Poplar, W. D Street and N. Pierce Avenue, Walnut Street and S. 7th Avenue, and D Street and N. 8th Street). In the short-term, construction impacts (dust, noise, traffic and access changes) could affect the convenience of building users or visitors in the project area. Post construction and over the long term, the proposal is not expected to directly or adversely affect the integrity or use of these buildings. Improved mobility within the CBD overall would generally improve access to historic buildings and businesses. Sidewalk improvements are proposed along Front Street within the historic district under a separate project. Please refer to the discussion of Cultural Resources in Section 5.6 and the discussion of Socioeconomic effects in Section 5.10.

L3, L3.2, L3.4 The proposal is intended to enhance circulation, mobility and safety for vehicles and pedestrians within the CBD. From a transportation perspective, these improvements are consistent with maintaining the CBD's vitality.

L3.1 Improved long-term mobility in the CBD could, in the context of other City-initiated economic development efforts and market conditions, encourage the location or expansion of businesses within the CBD.

Transportation Element Goals & Policies

T1 The proposed railroad crossing improvements would reduce delays and congestion associated with trains traveling through the CBD. Improved traffic flow would enhance the efficiency of the transportation system and the movement of people and goods.

T2.2 The proposal would reduce delays associated with periodic railroad crossing backups. Sidewalk improvements to Front Street would further the pedestrian character of the CBD.

T4.1 The project would occur within the Yakima CBD, which is an intensive concentration of commercial, governmental and cultural land uses. Some industrial and warehouse uses are located adjacent to the CBD in the project area. In general, the proposal would enhance transportation access and circulation and support existing and planned land uses.

Future Land Use Map & Yakima Urban Area Zoning Ordinance

The Comprehensive Plan Future Land Use Map designations described in Section 4.7.2 indicate the types of land uses planned in the project area and the general vicinity. As described, these include a number of intensive urban land uses: CBD Core Commercial, Arterial Commercial, Professional Office, Wholesale/Warehouse and Industrial. Zoning classifications applicable to properties in this same area are generally congruent with land use designations. They include a number of zones (CBD, CBDS, M-1 and B-1) which permit a variety of intensive urban activities. The analysis in this section indicates that the proposed grade separation project would not conflict with existing land uses, and would support the surrounding land use pattern.

4.1.6 What are the indirect and cumulative effects on land use?

The Preferred Alternative could cause some shifts in localized traffic patterns within the CBD, which could indirectly affect some land uses. For example, there would be an increase in traffic along streets with below grade crossings and some adjacent streets, and decreases in traffic along some routes (at-grade crossings) and adjacent streets. (See Appendix E, Phases 2 and 3 for a description of streets projected to experience traffic increases and decreases.) These shifts could affect businesses that are particularly dependent on or sensitive to auto traffic, some positively and others negatively. However, based on the types of land uses within the CBD as described above in section 4.1.5, indirect effects on the local land use pattern from these potential shifts in localized traffic patterns would be minor and not measurable.

There are no other public or private projects proposed in the reasonably foreseeable future that would likely change the local land use pattern. Consequently, the Preferred Alterative is not expected to contribute to either positive or negative cumulative effects on land use as a result of specific, identifiable actions. As discussed in Section 4.1.2, however, key components of the adopted comprehensive plan include policies to promote historic and cultural preservation,

maintain the CBD as a vital and primary business area, manage vehicular circulation and parking to support CBD functions, and insure that industrial and commercial uses are placed where they would have transportation accessibility (City of Yakima 1997). The Preferred Alterative would help to improve the appeal of the Historic District to visitors, and would help to improve traffic circulation on a major arterial couplet serving the downtown area. By supporting the City's planning objectives for historic preservation and maintenance of a vital CBD, the Preferred Alterative has the potential for positive interaction effects with future development or transportation actions that could be approved under the applicable planning direction.

4.1.7 What measures are proposed to minimize land use effects?

Direct or indirect land use effects from the proposed project would be limited, as described in Sections 4.1.3 and 4.1.4. Measures incorporated into the project plans to maintain access to project-area businesses during the construction period would minimize the potential for short-term disruption to those businesses. Similarly, provisions for maintaining modified, but adequate, access to businesses during project operation would minimize the potential for long-term adverse land use effects.

4.2 Transportation

This section provides background information on the characteristics of the transportation system in the project area, and addresses potential impacts resulting from the proposed project. The analysis in this section is based on information from the *Yakima Grade Separation Study, Updated Transportation Impact Analysis* (Transpo, 2005). The Transportation Impact Analysis is included in Appendix H of this EA.

4.2.1 What are the existing transportation facilities in the area?

The Yakima Grade Separation Project is located on the east side of Yakima, approximately one mile from Interstate 82. The construction area is located along Lincoln Avenue and B Street between South First Street and South First Avenue and along Front Street between D Street and A Street. Lincoln Avenue and B Street serve as a one-way couplet from N 6th Avenue to N 9th Street, west of the project area, adjacent to Interstate 82. Front Street runs perpendicular to Lincoln Avenue and B Street and intersects with Yakima Avenue which connects to Interstate 82.

The project area is used as a transportation corridor for truck and train freight traffic, and is used by the police and fire department and for school bus, mail and ambulance service. Lincoln Avenue and B Street connect the residential areas west of the project area to the downtown core. Lincoln Avenue, B Street and Front Street are used for vehicular and truck access to and through the central business core of Yakima.

4.2.2 What are the existing traffic conditions in the area?

Trains currently take an average of 20 minutes to travel through the city and, depending on their length, may block several (up to 5) at-grade crossings simultaneously. The time period over which a train blocks an at-grade crossing varies widely depending on the length and speed of the

train and whether or not it is a through train or a local train (local trains often stop, start and reverse direction while blocking one or more intersections). Data collected by the City of Yakima (1997) and the Transpo Group (2001 and 2005) indicates that the average blockage time at the B Street and Lincoln Avenue at-grade intersections is about 6 minutes and the average traffic delay (consisting of the blockage time plus the time taken for road traffic backups to clear) is about 8 minutes. As discussed in Section 2.2.1, 1,950 vph currently travel through the Lincoln and B rail-grade intersections during the PM peak hour (Transpo, 2002).

4.2.3 How will construction affect traffic in the area?

Preferred Alternative

Construction of the project would generate traffic typical of road construction activities, including equipment, dump trucks and worker traffic, and vehicle activity would increase congestion in the area. Construction is expected to affect traffic flow, access to businesses, business signage, and parking in the project area. Construction would cause some traffic delay and traffic volumes on detour routes would increase. Access to adjacent businesses could be temporarily disrupted, but access to all properties would be maintained.

No Action Alternative

There would be no construction related impacts under the No Action Alternative.

4.2.4 How will operation of the project affect traffic in the area?

Preferred Alternative

Transportation Efficiency/Traffic Flow

The proposed project would improve transportation efficiency in the project area. Under the Preferred Alternative, Lincoln Avenue and B Street would be grade separated from the railroad, separating vehicular and train traffic; no queues would form at the rail crossings during a train crossing. Grade separation would improve traffic flow in the project and surrounding areas. Traffic congestion and delays on Lincoln Avenue and B Street caused by train traffic would be eliminated, as would related side street and arterial traffic congestion.

Traffic Volumes

Weekday PM Peak hour traffic volumes on Lincoln Avenue and B Street are anticipated to increase from 2,800 vph in 2030 (without grade separation) to 3,600 vph with grade separation (Transpo, 2002). This is due to an anticipated shift in traffic from other east/west arterials such as D Street and Yakima Avenue to Lincoln Avenue and B Street due to the proposed grade separations, as the grade-separated crossings will provide a reliable route through downtown Yakima without the chance of a train-related delay to the traveling public. On Lincoln Avenue volumes are expected to increase from 1,095 to 1,505 between 2001 and 2030. For the same time period on B Street, volumes are expected to increase from 860 to 1,310.

Traffic Operations

A review of traffic signal operations at key intersections in the vicinity of the two crossings suggests that the elimination of the at-grade intersections through grade separation will not

adversely affect traffic operations. Under a grade-separated scenario and when no trains are passing, the forecast level of service (LOS) at the study intersections remains the same, improves or is slightly degraded as compared to the No Action Alternative. The reason for the slight degradation is that as some traffic will shift to B Street and Lincoln Avenue from Yakima Avenue and D Street; this will result in greater traffic volumes at nearby cross-street intersections, such as with First Street. Due to the increase in traffic volumes, when trains are not present the LOS at these intersections will degrade slightly. However, when trains are present the LOS will improve significantly. Under a grade-separated scenario when trains are passing, the forecast LOS at the study intersections significantly improves as compared to the No Action Alternative due to the elimination of congestion and gridlock at the crossings. Therefore, in 'train passing' instances, improvements were identified and in 'no train' instances, effects on the downtown street system are negligible if not positive. Intersection upgrades may be used to mitigate for effects to intersections that are slightly degraded when no trains are passing. A more detailed comparison of traffic conditions under no-build and with grade-separation conditions is provided in the Transportation Analysis Impact in Appendix H. (Transpo, 2002)

Access

Changes to access and parking will impact several businesses. These businesses are Sundquist, Helliesen Lumber, Washington Fruit, Hollingberry & Son, Elliott Tire, and ARCO Station/Lincoln Avenue Car Wash. Over the long-term, access to these businesses and business parking lots would be reconfigured to accommodate affected businesses in a manner that results in appropriate access, and no net loss in parking.

No Action Alternative

Under the No Action Alternative, Lincoln Avenue and B Street would not be grade separated from the railroad, and queues would continue to form during train crossings. Train traffic related congestion and delays would continue to increase on Lincoln Avenue and B Street, impeding traffic flow and access to adjacent businesses as a result of increases in ADT and/or increases in the frequency of train blockages.

4.2.5 What are the indirect and cumulative effects on traffic?

Two of the nine roadway/railroad crossings in Yakima, at Walnut Street and Nob Hill Boulevard, have been reconfigured to place the roadway and railroad at different grades. The City constructed an underpass at Walnut Street in the early 1970's and in the 1960's developed a long overpass to carry Nob Hill Boulevard over the rail main line and an adjacent rail yard. Various proposals to separate the grades at one or more of the remaining seven crossings (I Street, D Street, Lincoln Avenue, B Street, Yakima Avenue, Mead Avenue and Washington Avenue, from north to south) have been considered on multiple occasions in the past, and the current proposal for grade separations at Lincoln Avenue and B Street is the result of a process to study a larger set of grade separation actions. The Nob Hill overpass serves a major, east-west arterial in the southern part of Yakima, and has little bearing on traffic patterns near the downtown area. The Walnut Street underpass serves a minor, east-west arterial near the southern edge of the

downtown area, and may provide a delay-free route for some motorists who might otherwise use Lincoln Avenue and/or B Street. The existing grade separations improved traffic flow on portions of the Yakima street network. Grade separations at Lincoln Avenue and B Street would likely result in further cumulative improvements in traffic flow and reduction in traffic impacts resulting from delays at railroad crossings.

The railroad line that is the focus of the proposed action was not in active use for a number of years prior to 1996, when the Burlington Northern Santa Fe Railroad acquired the line from another operator and resumed commercial service on the line. This action resulted in the current level of rail operations activity in Yakima and is directly associated with the traffic operations, safety, efficiency, noise and air quality concerns that represent objectives for the proposed project. To the extent that the proposed project will improve conditions for those objectives, it will represent a reduction in cumulative impacts from rail operations and their interaction with use of the Yakima Street network.

Current traffic conditions within the area of project influence reflect the historical development of the street network and major highways that serve the Yakima Valley. The construction and current configuration of Interstate 82 along the east side of Yakima has been a major factor in the function and use of the city street network. The Lincoln Avenue/B Street one-way couplet connects with I-82 just northeast of the downtown area, and provides a second major east-west route (with Yakima Avenue) serving the downtown core. The Preferred Alternative would improve traffic flow on Lincoln Avenue and B Street, and would contribute to the intended function of the street system and its connection with the dominant regional highway.

4.2.6 What measures are proposed to minimize effects to traffic during construction?

The City will develop a public information program to provide local businesses and their customers, as well as the general public, with up-to-date construction and traffic detour information. Public notices/information sheets will be published in both English and Spanish.

During construction, reasonable access will be maintained to all existing businesses, detour routes will be signed, and additional construction signage will be installed to mitigate effects to local business signage. Construction activities will be coordinated with local service providers (i.e. police, fire, emergency services).

4.2.7 What measures are proposed to minimize effects to traffic from operation of the project?

The project may displace access to several businesses; however access to those businesses and business parking lots will be reconfigured to accommodate these businesses in a manner that results in appropriate access, and no net loss in parking. The City will continue to work with property and business owners to minimize both short and long term effects to access and parking.

The proposed project is expected to improve traffic operations in the area; therefore no mitigation for impacts to traffic operations are proposed. As a result of the project, traffic safety

would be improved by reducing congestion and delays on the existing roadways in the project area.

4.3 Public Services and Utilities

This section describes the existing public services and utilities available in the project area and discusses the temporary and long-term impacts to these services that could result from construction and from the grade separation of Lincoln Avenue and B Street from the railroad. Potential mitigation measures are also described.

4.3.1 What public services are located in the area?

Public services in the project area include police and fire protection, ambulance service, school bus and mail service, and road maintenance.

4.3.2 What utilities are located in the area?

Utilities in the project area include sanitary sewer, water, natural gas, power and telecommunication facilities.

4.3.3 How will construction affect public services and utilities?

Preferred Alternative

The Preferred Alternative will have minor effects on public services. Temporary closures, detours of roadways, changes to access, and increased traffic volumes on other roadways during construction could affect travel routes for emergency vehicles, school buses and mail delivery vehicles.

Under the Preferred Alternative, the sanitary sewer and water systems that are affected will be rerouted outside of the areas of excavation prior to the beginning of any excavation operations. In addition, the sanitary sewer and water lines under A Street and Front Street within the historic district will be replaced and upgraded. The new pipes will be constructed outside of the existing pipes, so the only interruption of those services will be short periods of a few hours while the services are switched from the existing pipes to the new pipes.

The gas, power, and telecommunication utilities are privately owned utilities. Under the preferred alternative, they will be impacted at locations within public ROW. Within public ROW, these utilities operate under franchise agreements with the City. These franchise agreements require the private utilities to relocate their facilities as needed in order to allow for improvements to the public ROW, such as this project. These utilities will be relocated outside the areas of excavation prior to the start of excavation operations. They will be relocated by the private utilities at their cost in coordination with the City. It will be the private utility operator's decisions when and how long any service disruptions will be.

No Action Alternative

Under the No Action Alternative, construction related impacts to public services would not occur in the project area. Under the No Action Alternative, the existing sanitary sewer and water

systems will be unaffected. This will avoid short term disruptions, but increases the long-term chances of more serious breakage disruptions in the very old pipes in the historic district. Under the No Action Alternative, the private utilities will not be affected and the private utility companies will not incur any relocation costs.

4.3.4 How will operation of the project affect public services and utilities?

Preferred Alternative

The public services in the area are all transportation related. Grade separation of Lincoln Avenue and B Street from the railroad and the separation of vehicular traffic from train traffic is expected to improve public services by reducing train traffic related congestion and delays in the project area. The project will eliminate school bus crossing at Lincoln Avenue and B Street, and is expected to improve emergency vehicle response times.

The operation of the project will not affect the utilities, but constructing the project will upgrade several utility systems, therefore decreasing the chances of short term unplanned utility disruptions.

The project will not change the current land use zoning or create new access in the project vicinity. Therefore, the Preferred Alternative will not affect the current demand for energy or utilities in the project vicinity.

No Action Alternative

Under the No Action Alternative, train traffic related congestion and delays would continue on Lincoln Avenue and B Street and on related side streets and arterials. Police, fire, ambulance, school bus and mail delivery services would continue to be adversely affected by congestion and delays during train crossings. School bus crossings on Lincoln Avenue and B Street would continue and emergency vehicle response times would not improve.

4.3.5 What are the indirect and cumulative effects on public services and utilities?

An indirect effect of the project on public services will be to alter the preferred routes of several transportation related public services. Emergency services, buses, and mail are all likely to alter nearby routes to use the underpasses in order to save time.

There are no anticipated indirect effects on the utilities.

There are no proposed changes in public services or utilities in the reasonably foreseeable future in the project area or adjacent areas that would contribute to cumulative effects.

4.3.6 What measures are proposed to minimize effects of the project on public services and utilities?

During construction, impacts to public services will be minimized by maintaining access (either via the existing access or an alternative access) to properties at all times and by only closing either Lincoln Avenue or B Street at a time while temporarily channelizing the other as a two-way street. Detour routes will be signed and construction activities will be individually

coordinated with each affected service provider (i.e. police, fire, emergency services) so they will know ahead of time what the detour routes will be. Mitigation measures during construction for utilities will be to relocate all the utilities prior to the time when the existing utilities are disrupted. This will minimize the disruptions to the time needed to switchover from the existing services to the newly constructed services.

The completed project will benefit both public services and utilities, so there are no mitigation measures proposed for the completed project.

4.4 Socioeconomic Impacts

This section discusses the social and economic character of the project area in terms of demographics, housing, business and employment. Potential impacts to the residential and communities, local and regional economic viability, and housing availability are discussed, along with potential mitigation measures for those impacts.

4.4.1 What are the neighborhood character and demographics?

The proposed grade separation project is located within the City of Yakima, adjacent (on the west) to the downtown core area or CBD. Yakima, with an estimated population of 79,480 in April 2004 (OFM, 2004), is the largest incorporated community in Yakima County and accounted for 35 percent of the total Yakima County population (227,500 persons) in 2004. The City of Yakima population increased by nearly 45 percent from 1990 to 2004, while the growth rate for the County population over the same period was 20.5 percent; annexations accounted for a substantial portion of the City population growth.

Land uses in the eight-blocks surrounding the project area primarily include a mix of commercial, government office and light industrial uses.

4.4.2 What are housing conditions?

Residential use is limited to one multi-story building that contains rental apartments. The residential population in the eight-blocks surrounding the project area has not been specifically inventoried, but appears to be less than 50 people.

4.4.3 What are the economic conditions?

The City of Yakima is the center of government and retail trade activity for the surrounding region. The local economy (using Yakima County as the geographic unit for measurement) is based predominantly on agriculture, food processing and related industries. In 1997, Yakima County ranked sixteenth among all counties in the nation for the value of its crops. Major crops include apples, cherries, grapes, hops, and mint, although over 100 crops are produced in the County; livestock and dairy production are also important (YCDA, 2005). As of 2002, agricultural employment in Yakima County accounted for 24 percent of all agriculture and forestry employment in Washington State. Crops grown in the Yakima Valley are also processed locally, supporting substantial activity in food product manufacturing, warehousing, wholesale trade and transportation.

Based on employment by major industrial sector, the services sector comprises the largest portion of the local economy. The various components of the services sector accounted for 21,430 jobs in the year 2000, representing nearly 23 percent of all jobs in Yakima County covered by the Washington Employment Security Act (WESD, 2002). The agriculture, forestry and fishing sector was the second largest, with approximately 19,990 jobs representing 21.2 percent of total employment. Retail trade accounted for approximately 13,200 jobs or 14 percent of the total, while manufacturing was the fourth-largest sector with 11,430 jobs and 12.1 percent of total covered employment. Key manufacturing industries include food and kindred products, lumber and wood products, and transportation equipment.

The five largest individual employers in Yakima County are the two local hospital organizations, the Yakima School District, Yakima County and the City of Yakima, with the number of employees in each case ranging from 1,100 to approximately 620 (YCDA, 2005). Other large employers include a meat packing company, three fruit processing firms, Yakima Valley Community College, the Yakama Nation casino and a recreational vehicle manufacturer. Most of these large employers are located within the City of Yakima.

Comparable data on economic activity within the eight-blocks surrounding the project area are not available, because of the size of the reporting units for economic data. However, the economic analysis undertaken as part of the grade separation project (see Appendix E for complete documentation) included an inventory of individual business establishments and government offices, which identified 51 establishments within the eight city blocks surrounding the project area (from D Street to Yakima Avenue and from First Street to First Avenue) at the time of the original inventory (published February 2004) and 43 establishments within the same area in June 2005. Table 2 provides a listing of the businesses present in June 2005 by type of activity or function.

Table 2: Types and Numbers of Businesses in the Eight-Blocks Surrounding the Project Area

Type of Establishment	Number
Specialty retail/service	18
Restaurants/food service	7
Agricultural process/storage	5
Lumber/building supply wholesale/retail	1
Automotive service/sales	4
Transportation	1
Residential apartments	1
Government offices/operations/storage	6
Total	43

Yakima County has experienced slower economic growth than the State of Washington since 1970, as measured by employment changes (WESD, 2002). There has been substantial volatility in local employment patterns in both agricultural and nonagricultural sectors over the past 5 to

10 years, much of it attributable to major downturns in agriculture in 1999 and 2001. The economic vitality of the downtown core area of Yakima has received considerable public attention and concern in recent years as well, primarily as a result of the closure of three anchor retail outlets in the downtown Yakima Mall in 2001 (Northern Economics, 2005). A large portion of the retail space in the Yakima Mall currently remains vacant, although there are relatively few vacancies elsewhere in the downtown area and there are anecdotal reports that local business operators are being attracted to the downtown area by relatively low lease rates. Specific data on economic trends within the eight-blocks surrounding the project area are not available, although a comparison between the business inventory taken in June 2005 and that published in February 2004 (data collection took place in mid-2003), shows that eight of the business spaces have been vacated.

The Economic Analysis (see Appendix E) completed for this project concluded that changes in traffic flow, access, and parking were the most likely means by which businesses in or near the project area could be negatively affected by the project. The vast majority of the businesses in the eight-blocks surrounding the project area (essentially all of the retail, restaurant, service and government operations indicated in Table 2) depend largely on customer/client access to their facilities via the local street network, and the ability of customers/clients to park on the premises or nearby. Foot traffic from the downtown area is also likely a substantial source of business for many of the restaurant and retail operations in the eight-blocks surrounding project area.

4.4.4 How will construction affect the residential community?

Residents of the existing apartment building would not be displaced and relocated during project construction. The project would provide temporary employment and labor income during construction, but the magnitude of this economic stimulus would not be sufficient to result in a population increase.

4.4.5 How will construction affect the business community?

The project is expected to have positive short-term and long-term effects to the local/regional economy. The short-term effects on the local economy would result from the infusion of project construction expenditures into the local economy. The project is expected to cost $30 million, with funding coming primarily from external (non-local) sources. Construction labor, materials and supporting services such as lodging and meals would be procured from local sources, benefiting the local community by providing a temporary increase in employment and sales relative to the baseline level without the project. The positive impacts from project construction expenditures and labor are expected to more than offset any potential short-term loss of business activity within the project area as a result of access and parking constraints during construction. Under the No Action Alternative, this construction associated influx of funds into the local economy would not occur.

The economic analysis for the project focused on the potential for adverse project-related impacts on the businesses within the project area. As discussed in Section 4.10.2, changes in traffic flow, access, and parking were identified as the most likely means by which businesses in or near the project area could be negatively affected by the project.

During construction, changes in traffic volumes, access patterns and parking availability would predominantly occur along Lincoln Avenue and B Street between N. First Street and First Avenue, and along Front Street between D Street and A Street (see description of construction staging in Section 3.1.3). Construction impacts are summarized below:

- Segments of Lincoln Avenue, B Street and Front Street will be closed for portions of the construction period, resulting in complete blockage of current access routes and on-street parking for establishments located adjacent to the affected street segments.
- Temporary reconfiguration of open streets for two-way traffic (rather than the existing one-way pattern with Lincoln Avenue and B Street) will impede traffic flow and make access to varying parts of the project area less convenient during the construction period.
- Based on the construction staging plans, existing access routes to virtually all businesses would be blocked or constrained during at least some portion of the construction period. Street closures would also eliminate access to and/or use of some current parking areas during construction.

Customers of retail and service businesses in the project area (approximately 30 of 43 total businesses) would be inconvenienced by traffic, access and parking changes at varying times and to varying degrees during the construction period. The volume of customer traffic to such businesses could be reduced somewhat in response to these effects. Operations at wholesale and transportation businesses (5 of 43 businesses) would likewise be inconvenienced to a degree, which would likely translate into additional transport time and cost. Because these effects would be temporary (3 to 5 months in most cases, and no more than 10 months for virtually all businesses) and would be mitigated through alternative access and parking means (or other measures) maintained during the disruptions, it is unlikely that the short-term effects on any individual business would be sufficient to result in a failure of the business. Specific observations to support this conclusion are as follows:

- The largest concentration of project-area businesses (including the Track 29 mall shops) occurs in the area west of the BNSF tracks, east of First Avenue, and between B Street and Yakima Avenue. This area can be accessed from the north via B Street, an access that would be blocked for approximately 9 months. The primary access to this area is from Yakima Avenue, however, which will not be impeded during the construction period. Several of the businesses in this area also use access from First Avenue, which will likewise remain open, and several are government offices. Customer traffic to these 20

businesses should not be substantially affected because of inconvenience or access constraints during construction.

- Twelve (12) inventoried businesses are in the block bounded by Yakima Avenue, Front Street, A Street and N. First Street, all segments of which would remain open during construction. Traffic disruption to these businesses should be minimal, at most.
- Four Yakima County government operations facilities are located in the area between D Street and A Street and between Front Street and N. First Street. These operations will remain open regardless of access constraints and their viability would not be adversely affected by customer inconvenience or traffic volumes.
- Operations at three non-retail or service businesses along the east side of First Avenue between D Street and B Street could be inconvenienced by closures of Lincoln Avenue and/or B Street, but would have continued use of First Avenue during construction.
- Three businesses located close to the intersection of D Street and First Street would have continued access via First Street or D Street during construction and should not be substantially affected by temporary access changes.

4.4.6 How will the project affect the residential community?

Preferred Alternative

Residents of the existing apartment building would not be displaced and relocated as a result of the project. The project would provide temporary employment and labor income during construction, but the magnitude of this economic stimulus would not be sufficient to result in a population increase. Consequently, the project would have no impact on population within the project area or the larger community.

No Action Alternative

The No Action Alternative would have no impact on population within the project area or the larger community.

4.4.7 How will the project affect the business community?

Preferred Alternative

Once construction is complete, the area of project influence (based on expected shifts in traffic patterns) extends from Walnut Avenue to D Street and from Fifth Avenue to Fifth Street. Potential effects of the project are summarized below.

Results of Phase 1 of the Economic Analysis (see Appendix E) indicate that access modifications would be needed for 20 businesses and parking modifications would be needed for 4 businesses. In addition, the loading dock at one business would need to be relocated. With these facility modifications, the potential for long-term adverse impacts to these businesses would presumably be avoided.

The economic study concluded that two businesses in the project area, the ARCO Station/Lincoln Avenue Car Wash and Goodyear Tire, might have to be relocated as long-term access changes could make the properties unusable for the type of business. In addition, the bin repair/storage facility of Washington Fruit and Produce may also have to be relocated. The bin repair facility is located on leased land from BNSF, between the BNSF tracks and Front Street and between D Street and Lincoln Avenue, in the area that will be occupied by the realigned Front Street. Relocation of this bin repair facility will be coordinated with the business owner and BNSF. Relocation assistance for all businesses would take place prior to the initiation of construction and be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Relocation Act) during the ROW acquisition phase of the project.

After construction, traffic volumes on roadways in the vicinity of the project are expected to change somewhat in response to travel routes that would no longer be subject to railroad delays. Specifically, some traffic that now uses other east-west routes such as Yakima Avenue and Walnut Street is expected to shift to Lincoln Avenue and B Street. Some businesses, such as restaurants along Yakima Avenue, might be negatively affected to a degree by decreased traffic volumes after construction. However, such shifts in traffic volume would only affect the fraction of restaurant business that consisted of drop-in traffic, from customers who stopped at a restaurant only after seeing it from the street. On balance, by decreasing the potential for delay and increasing travel convenience, the project should make it easier for customers to access businesses in the project area and in the downtown area of Yakima.

Overall, the project would benefit the central business district by providing an unimpeded east-west traffic route that connects with the downtown area. The avoidance of railroad-related traffic delays would enhance mobility and reduce shipping costs for food processing businesses located within the project area and in nearby areas of the city. These changes would increase or maintain the desirability of business locations within and near the project area, and translate into corresponding benefits for producers, shippers and their customers. Under the No Action Alternative, these benefits would not be realized, while predicted increases in congestion may harm the local economy.

No Action Alternative

Under the No Action Alternative, over the long term, increased traffic numbers and/or train blockages are expected to slow traffic flow, increase congestion and thereby make it increasingly difficult to access businesses in the project area and its surrounds.

4.4.8 What are the indirect and cumulative effects on residential and business communities?

Temporary street closures and access changes during construction are also expected to indirectly affect traffic volumes within a larger area extending from Yakima Avenue to D Street, and between Fifth Avenue and Fifth Street. There are no proposed projects for the residential or

business communities (public or private) in the reasonably foreseeable future that would contribute to cumulative effects.

4.4.9 What measures are proposed to minimize effects on residents and businesses?

During Construction

The total duration of construction is expected to be 24 months (2 years). Closures of parts of Lincoln Avenue and B Street would be limited to 10 months and 9 months, respectively. There will be no portion of the construction period during which both of these streets would be closed. Front Street will not be a through street between A Street and D Street during construction. North-south traffic flow would continue on First Street and First Avenue during that time.

The construction plans include means for alternate access and parking arrangements for all businesses and all portions of the project area. No business will experience a complete or predominant loss of access or parking capacity on even a temporary basis during the construction period.

As discussed above, many businesses in the project area are expected to experience minor adverse effects to access and/or parking during the construction period. These effects will be addressed in part by ensuring that some reasonable access to all businesses is maintained during business hours. A public information campaign (in English and Spanish) will be initiated prior to construction and maintained throughout construction to alert customers that businesses in the project area are open, and to provide them with information about alternative access routes and parking locations. Detour routes and parking locations will be clearly signed so that customers can reach their desired locations. Signs will be posted indicating the businesses that remain open during construction.

Post Construction

Project plans include provision of replacement access means and parking capacity in cases where the project facilities would displace existing access or parking.

Access for affected businesses would be replaced in kind or improved. For businesses that experience adverse affects to access (as defined by the Uniform Relocations Act) that cannot be fully mitigated through minimization measures, monetary compensation for the purchase of their property would be negotiated during the ROW acquisition phase of the project and relocation assistance provided, in accordance with the Uniform Relocations Act.

Project planning has identified measures to minimize or negate adverse access and parking effects, and the City of Yakima will continue to coordinate mitigation actions with the affected business owners. Potential effect minimization measures specific to particular businesses and/or streets are discussed in Phase III of the Economic Analysis (Appendix E). Monetary compensation will be paid, in accordance with the Uniform Relocations Act, during the ROW acquisition phase of the project. The aim of the City is to develop the project in a manner that avoids the loss of jobs or loss of economic activity for any business over the short or long-term.

In some cases, the details of these measures will be finalized through discussions with the business owners/operators as the final construction plans are developed and a sequence of construction is finalized. Refer to Figures 4 to 8 for the draft construction staging plan.

4.5 Environmental Justice

An Environmental Justice Technical Report was prepared for the project by Widener & Associates on February 9, 2005. The environmental justice (EJ) analysis was conducted in compliance with Presidential Executive Order 12898, DOT Order 5610.2 and FHWA Order T6640.23. The purpose of EJ analysis was to identify minority and low-income groups in the project area, and identify and address any disproportionate adverse effects of the project on EJ populations. Refer to Appendix F for a copy of the report.

4.5.1 What are environmental justice populations?

Environmental justice populations are defined as populations comprised of minority and/or low-income individuals. Minority is defined as people who are Black, Hispanic, Asian American, American Indian or Alaska Native. Low-income is defined as having a median household income at or below the Department of Health and Human Services poverty guidelines for the size of the household. The intent of the EJ legislation is to ensure full and fair participation of minority and low-income groups on federal projects. EJ populations should receive an equitable distribution of transportation benefits and projects should be developed in a manner that avoids, minimizes, and mitigates disproportionate adverse effects on EJ populations (WSDOT, 2004).

4.5.2 What are disproportionate adverse effects?

The USDOT defines disproportionately high and adverse effects as effects that are predominantly borne by a minority and/or low-income population, or will be suffered by a minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority and/or non-low-income population. As defined by the USDOT (Order 5610.2), adverse effects to EJ populations "may include but are not limited to air, noise and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion; isolation, exclusion or separation of minority or low-income individuals from the broader community; and the denial of, reduction in, or the significant delay in the receipt of benefits of DOT programs, policies or activities."

4.5.3 What are the demographics of the study area?

A review of the Census 2000 data revealed that the percentages of minority populations within the census blocks located in the study area ranges from 38.7% - 78%, with an average of 64%, which is higher than the percentage for the City of Yakima (38.3%). The minority population is comprised predominantly of Hispanic individuals. The Census 2000 data also showed that the

average percentage of low-income populations among the census blocks within the study area is 43%, which is higher than the percentage for the City of Yakima (22.4%). School demographics revealed that 51.7% -85.3 % of the students attending the five schools in the study area belong to minority groups, and the minority population is comprised predominantly of Hispanics. The data also showed that 73- 94% of the students are low-income.

In November 2004, a Business Operations and Marketing Questionnaire was distributed to 309 businesses and property owners within the project area and the streets immediately surrounding the project area. The questionnaire was provided in both English and Spanish. Twenty-nine businesses responded to the questionnaire. Refer to Appendix B to view a list of the businesses that responded and copies of the questionnaire in both English and Spanish. Of these business, two identified themselves as being minority owned and operated, 24 stated that a portion of their customers belong to a minority race and one stated that they cater to low-income individuals. Sixteen businesses stated either that they have minority employees or that they have employees that speak a language other than English. Five businesses stated that 50% or more of their customers belong to a minority race and three businesses stated that 50% or more of their employees belong to a minority. Note that several businesses stated that they had employees/customers belonging to a minority race but did not specify the percentage. Thus, results of the questionnaire further confirm that EJ populations are present in the project area.

4.5.4 How will construction affect environmental justice populations?

Traffic Flow, Access and Parking Impacts

Short-term impacts are anticipated as a result of changes in traffic flow, access and parking during construction. These changes would detour traffic away from some businesses and toward others, and are likely to increase congestion on detour routes during construction. Two EJ businesses would be affected by the changed traffic flows, access and parking; however, a greater proportion of businesses that would be affected are owned and operated by non-EJ individuals. Although EJ employees and customers are likely to be affect by the project, impacts borne by non-EJ employees and customers are expected to be the same.

Noise

Temporary noise impacts from construction will impact all populations within the study area; however, construction noise is not expected to exceed levels generated by train and vehicular traffic. Temporary noise impacts will affect EJ and non-EJ populations within the study area equally.

Air Quality

During construction, air quality within the area may be affected by an increase in dust particles. Air quality impacts will affect EJ and non-EJ populations within the study area equally.

4.5.5 How will the project affect environmental justice populations?

Preferred Alternative

Property Displacements

No property displacement would occur to EJ populations.

One business, the ARCO Station/Lincoln Avenue Car may be displaced as a result of this project; however, displacement would not disproportionately affect the EJ population. The business is not minority owned, there are a greater number of non-EJ employees than EJ employees, and all employees would be affected equally. The City of Yakima confirmed that there are several other gas stations within the study area, and that at least two gas stations charge less for gas than ARCO. Displacement of this business would affect all customers in the same way, and low-income customers would not be impacted as there are other gas stations in the immediate vicinity that charge less for fuel than ARCO.

Traffic Flow, Access and Parking Impacts

The proposed project is expected to improve transportation efficiency and safety, and accommodate future levels of use, benefiting all populations in the study area. Five businesses will be affected as a result of changes to their access and parking. None of these businesses are minority owned and operated, and both EJ and non-EJ employees are expected to be equally affected (Widener & Associates, 2005).

Noise and Air Quality

By reducing train traffic related congestion and delays, the proposed project would reduce noise pollution and air pollution, benefiting all populations in the study area.

No Action Alternative

The No Action Alternative would have no additional impacts on EJ populations and would avoid the potential displacement of the ARCO Station/Lincoln Avenue Car Wash. However, existing traffic and environmental conditions would be sustained.

4.5.6 What are the indirect and cumulative effects of the project on environmental justice populations?

The project is expected to result in the influx of finance into the local economy during construction, which would benefit both EJ and non-EJ populations. (Widener & Associates, 2005) Additionally, improved traffic flow as a result of the project could result in long-term economic improvements in the project area, which would benefit both EJ and non-EJ populations.

4.5.7 What measures are proposed to minimize environmental justice effects during construction?

During construction, reasonable access will be maintained to all existing businesses, detour routes will be signed, and additional construction signage will be installed to mitigate effects to local business signage. Short-term noise impacts due to construction activities will be minimized by conducting project activities during normal business hours, Monday through Friday. Short-term air quality effects will be minimized by complying with state and local air quality regulations.

The City will develop a public information program to provide local business and their customers, as well as the general public with up-to-date construction and traffic detour information. Public notices/information sheets will be published in English and Spanish.

Construction activities will be coordinated with local service providers (i.e. police, fire, emergency services).

4.5.8 What measures are proposed to minimize environmental justice effects resulting from the project?

Based on the EJ analysis and WSDOT concurrence, no disproportionately high human health or environmental effects to EJ populations are anticipated as a result of this project, therefore no mitigation measures are proposed.

4.5.9 What is the environmental justice determination?

As concluded in the EJ Technical Report (Widener & Associates, 2005), no disproportionately high human health or environmental effects on EJ populations are anticipated as a result of this project. The project affects both EJ and non-EJ populations. In addition, populations in the study area will benefit from the project in the long-term, due to improved traffic efficiency and safety, a reduction in noise and air pollution, and the accommodation for future improved levels of transportation use. The No Action Alternative would also not be anticipated to result in any disproportionately high human health or environmental effects on environmental justice populations.

4.6 Historic, Architectural, Archeological and Cultural Resources

This section summarizes the findings from a cultural resource survey and historical assessment conducted for the proposed project. Western Shore Heritage Services undertook a cultural resource survey and historical assessment for the proposed project in January 2005 (WSHS, 2005). The purpose of the cultural resource assessment was to evaluate the Hollingberry and Son Building to determine its National Register of Historic Places (NRHP) eligibility, to evaluate the properties in Fruit Row (and within the area of potential effect (APE)) and determine whether or not they are part of a larger potential historic district, to assess the likelihood of archeological resource presence in the project area, and to assess project effects on any cultural resources identified within the APE.

Coordination with WSDOT and the State Historic Preservation Office (SHPO) has been ongoing throughout the project. SHPO provided a letter of concurrence dated January 20, 2006, that the current project as proposed will have "No Adverse Effect" on the National Register of Historic Places (NRHP) eligible Hollingberry and Son Building, conditioned upon fulfillment that: 1) the non-historic loading dock ramp to the Hollingberry Building is removed in such a manner that historic fabric of the building will not be damaged, 2) DAHP is afforded an opportunity to review and approve any plans/specifications for protecting the Hollinberry Building from any damage from vehicles circulating near the building, 3) DAHP is afforded an opportunity to

review and comment on plans and designs for the underpass structure and appurtenances that will affect the setting of the Hollingberry Building, and 4) that should any archaeological resources be discovered, work shall be halted immediately and contact made with the appropriate Native American Tribes and DAHP for further consultation. Refer to Appendix D for a copy of the report and to Appendix A for a Copy of the letter of concurrence.

4.6.1 What are the applicable regulations and guidelines?

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires that projects with a federal nexus take into account the effects of their undertakings on historic properties and consult with the Advisory Council on Historic Preservation (ACHP). The goal of consultation is to identify historic properties potentially affected by a project, assess the effects, and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

Historic properties in the area are eligible for protection under Section 4(f) of the US Department of Transportation Act of 1966 which stipulates that FHWA will not approve any program or project which requires the use of any publicly owned park, recreation area, or wildlife or waterfowl refuge, or any land from an historic site of national, state, or local significance unless: there is no feasible and prudent alternative to the use, and all possible planning to minimize harm resulting from such use is included. At this time, based on the results of the cultural resource survey and ongoing consultation with SHPO, it appears unlikely that use of a Section 4(f) resource will be required under the Preferred Alternative; therefore a Section 4(f) evaluation is unlikely to be necessary. However, if a Section 4(f) evaluation is determined to be necessary, it will be undertaken once consultation under Section 106 of the NHPA is complete.

4.6.2 What is the Area of Potential Effect for the project?

The APE includes properties adjacent to the project area along Lincoln Avenue between First Avenue and First Street, along B Street between First Avenue and First Street, and along Front Street between D Street and Yakima Avenue. The APE includes the proposed staging area that is located in the abandoned Safeway parking lot. A portion of the Old North Yakima National Register of Historic Places District is contained within the southernmost part of the APE. The SHPO concurred with the APE on August 13, 2004 although they added the portion of A Street between Front Street and First Street, due to the potential presence of historic brick pavement and potential impacts to this area by upgrades to utilities and repaving along Front Street. Refer to Appendix A for a copy of this correspondence. The majority of the Old North Yakima National Register of Historic Places District is contained within the southernmost part of the APE. This Historic District (a collection of nine buildings) was listed on the NRHP on May 2, 1986. Eight of the buildings included in this district are within the APE: the Lund (Greystone) Building (listed on the National Register on the 13th of October, 1983), the Northern Express Company Office and Freight Depot (Burlington Northern Freight Depot), the Northern Pacific Railroad Passenger Depot (Burlington Northern Passenger Depot), Commercial Saloon and Lodging House (Top Que Billiards and Video Games), Switzer's Opera House (Yakima Brewing

and Malting Company), Yakima City Hall (Old City Hall), Hotel Sydney (Cascade Apartments), and Hotel Michigan (Hotel Rosa). These buildings are located along Front Street and A Street.

4.6.3 What were the findings of the Cultural Resources Assessment?

In regard to the Hollingberry and Son Building, the study concluded that "Based on all available data the Hollingberry and Son Inc. Building located at 215 N. First Avenue is an excellent candidate for NRHP nomination. It meets the criteria based on its integrity, association with local commerce and association with important local historical figures." (WSHS, 2005)

In regard to 'Fruit Row', the study concluded that the Fruit Row neighborhood within the project APE fails to meet the criteria for a NRHP Historic District. "With the exception of the Hollingberry and Son Building, few if any other buildings maintain the requisite integrity to warrant nomination. Most of these buildings fall under the category of 'Historic Non-contributing.' Secondly, despite the fact that many buildings along North First Avenue are of sufficient age to qualify for NRHP listing, virtually all of the structures have been significantly modified during the past 75–plus years, significantly reducing their architectural integrity." (WSHS, 2005)

Due to the highly developed nature of the project area, examination of subsurface deposits for the presence of archaeological materials was not practical; however, the study concluded that the probability of intact cultural deposits being within the project APE is low. (WSHS, 2005)

Consultation with the Confederated Tribes and Bands of the Yakama Indian Nation (Yakama Nation) was initiated on August 4, 2004. The Yakama Nation responded on August 11, 2004 and indicated that they would like to be involved in the Cultural Resource Reconnaissance. Refer to Appendix A for a copy of this correspondence. As it was not practical to undertake a subsurface survey for archeological resources as part of the cultural resource survey, as recommended in the cultural resource report, the final design will be reviewed by a professional archaeologist in consultation with the cultural resources program at the Yakama Nation to identify possible effects to as yet unidentified archaeological resources.

4.6.4 How will the proposed project affect cultural resources in the area?

Preferred Alternative

Construction and operation of the Preferred Alternative would not adversely impact known cultural and/or archeological resources in the project area.

Hollingberry and Son Building

The Hollingberry and Son Building (eligible for the NRHP) located in the vicinity of the Lincoln Avenue crossing (Figure 2) is not expected to be adversely affected by construction of the Preferred Alternative for the following reasons:

- Construction: Construction activities will require the removal of the concrete ramp and loading platform located on Lincoln Avenue. Since vibration from using a jack hammer during removal of the concrete ramp could affect the building, a concrete saw or high-

pressure water cutter, will be used instead. This will minimize the potential for damage to occur to the historic fabric of the building itself during the process of removing the concrete ramp. The concrete will be cut a minimum of two inches back from the building. Once the concrete has been cut, the ramp will be broken apart with the use of a hydraulic excavator. Care shall be taken to pull the broken pieces of concrete away from the building. Once the ramp is removed, the remaining sliver of concrete will be removed from the building using hand tools to ensure the original building is not damaged.

- Building Integrity: The cultural resource survey concluded that the loading ramp is not an original component of the structure (it was constructed in the late 1950's) and does not contribute to NRHP eligibility. Therefore removal of the ramp would not be an adverse effect as defined under Section 106 of the NHPA. (WSHS, 2005) Any changes to access that are required as a result of removing the ramp will be undertaken in a manner that does not affect the building's historic value or eligibility for the NRHP.

- Change to Access: Vehicular access to the building will change as a result of this project. Access to the Hollingberry & Son Building loading dock located at the back of the building, adjacent to the railroad, would be via 11-foot access driveways located along the north and south faces of the building. Inbound access would be from First Avenue along B Street, and outbound access would be from First Avenue along Lincoln Avenue. However, access will no longer be possible from Lincoln Avenue or the east side of the building. A concrete barrier or a concrete steel post will be installed at the north east corner of the building to prevent any vehicles from making contact with the building. The access road will be designed to accommodate a single unit truck. Access details for the Hollingberry and Son building are shown in Appendix C of the Economic Analysis Phases II and III, in Access Detail Area 2. Changes to access are not expected to adversely affect the use of the building.

- Change to Setting: The above new access configuration would change the setting around the Hollingberry & Son Building by locating the new access driveways where sidewalks currently exist along the north and south faces of the building (along Lincoln Avenue and B Street) in order to retain access to the loading dock at the rear of the building. Trees lining Lincoln Avenue and B Street within this sidewalk space would also be removed. New sidewalks and a bike lane would be located in the underpasses. These changes are not expected to adversely affect the immediate setting of the building, as the road will tie into the existing grade in the vicinity of the building and none of the surrounding buildings will be removed as part of this project. Additionally, landscaping and architectural treatment of the project around the Hollingberry and Son Building, (i.e. underpass wall surface, railing, light fixtures) will be coordinated with SHPO during the final design phase of the project to ensure final design details compliment the historic building and its surrounding.

Old North Yakima Register of Historic Places District

The Old North Yakima National Register of Historic Places District is not expected to be affected by the proposed project. No buildings will be affected and the grade separation underpasses will not affect the integrity of setting. (WSHS, 2005) Repaving Front Street with brick pavers will benefit the setting of the Historic District and replacement of utility lines will also benefit the area.

No Action Alternative

There would be no construction or operational impacts to archaeological or cultural resources under the No Action Alternative project.

4.6.5 What are the indirect and cumulative effects to cultural resources?

The Old North Yakima Historic District is located in a one-block area bounded by Yakima Avenue, N. First Street, A Street and Front Street, which is in the southeastern corner of the defined project area. Current conditions of the area and the specific historic structures reflect land use decisions and development actions over a period of many decades, and much of the historic integrity of the area has diminished. The City of Yakima and local leaders have adopted a program to maintain and improve the historic area, and multiple actions toward those objectives are under way or are likely to occur in the future. In cooperation with the City, the North Front Street Improvement Association and area business owners have proposed the Old North Yakima Historic Renovation Project. Planned project actions include repair or replacement of utility lines, sidewalk reconstruction, restoration of original brick street pavers, period street lighting, and other features to improve and maintain the historic area (City of Yakima, 2005). Under a pending sidewalk improvement project, the City will upgrade the existing sidewalks along both sides of Yakima Avenue from Front Street to the Convention Center, which would enhance the pedestrian connection from the downtown core to the project area.

The proposed project will improve traffic flow in the project area resulting in reduced vehicular traffic congestion and improved air quality. Reduced traffic congestion will contribute to other planned actions to preserve and enhance the historic area by making access easier which is likely to result in increased visitors. Additionally, the separation of pedestrian and bicycle facilities from the railroad on Lincoln Avenue and B Street will improve pedestrian and bicycle safety in the project area, and is likely to result in increase usage. Safer pedestrian and bicycle facilities will provide alternatives (walking, bicycling) to traveling by car, and could further reduce vehicular traffic in the historic area.

4.6.6 What measures are proposed to minimize the effects to cultural resources?

Coordination with SHPO in regard to the Hollingberry and Son Building is ongoing and the City will continue consulting with the SHPO throughout the project to ensure current safeguards are maintained.

Although the probability of intact cultural deposits being within the project APE is considered low, protocols will be developed for accommodating the inadvertent discovery of archaeological

materials, should significant cultural materials be discovered in the course of construction. Protocols will be reviewed by professional staff with the cultural resources program at the Yakama Nation. (WSHS, 2005)

4.7 Geology and Soils

This section discussed the geology and soils in the project area. Information was collected from existing data sources, site visits, and geotechnical borings conducted by Shannon & Wilson, Inc. for this project in 2001, another geotechnical investigation by GN Northern, Inc. in March of 2002 for Yakima County, from the U.S. Department of Agriculture (USDA) Soil Conservation Service "Soil Survey of Yakima County Area Washington" (May 1985), and from the environmental site assessment conducted by Shannon & Wilson for this project in 2004.

4.7.1 What is the geologic setting of the area?

The City of Yakima is located within the Columbia Plateau and the Yakima Fold Belt (a series of northwest tending ridges and valleys). The area is relatively flat at an average elevation of approximately 1,070 feet. The ground surface in the project vicinity generally slopes southeast towards the Yakima River (Shannon & Wilson, 2004).

4.7.2 What soils are located in the area?

Soils in the project area belong to the Naches Series and the predominant soil type is Naches loam. Geotechnical data obtained from boring samples by GN Northern, Inc. in March 2002 indicated that subsurface soils in the project area also consist of fine-grained silty sand overlying dense gravel with sand and cobbles. Soils are generally very deep and well-drained and were formed in old alluvium on nearly level topography of floodplains and stream terraces.

4.7.3 How will construction affect geology and soils in the area?

Preferred Alternative

The Preferred Alternative will result in excavation of soils and consequent changes in the topography. This impact is not considered significant because the entire project area is currently paved and developed with parking facilities, transportation facilities and other structures, and no additional existing soils will be covered.

No Action Alternative

Under the No Action Alternative excavation would not occur and the topography would remain as it is today.

4.7.4 How will operation of the project affect geology and soils in the area?

Since the entire project area is currently paved and developed with parking facilities, transportation facilities and other structures, and no additional existing soils will be covered, no impacts to geology and soils in the area are anticipated from the proposed project. The No Action Alternative will also result in no impacts to geology or soils in the area.

4.7.5 What are the indirect and cumulative effects on geology and soils?

In the project area, native soils have been excavated, compacted and covered through previous development. No indirect or cumulative impacts to geology or soils are anticipated from this project.

4.7.6 What measures are proposed to minimize the effect of the project on geology and soils?

Since no impacts to geology or soils are anticipated as a result of this project, no minimization measures are proposed.

4.8 Water, Water Quality and Hydrology

This section discusses, water, water quality and hydrology in the project area. Information was collected from existing data sources, site visits, and an environmental site assessment conducted by Shannon & Wilson, Inc. for this project in 2004.

4.8.1 What water bodies are present in the project area?

The closest water body is the Yakima River, located approximately one mile from the project area. The City of Yakima receives an average of eight inches of precipitation per year, the majority of which is received from November to March (USDA, 1985).

4.8.2 What wetlands are present in the area?

Activities that impact wetlands are regulated by the US Army Corps of Engineers under Section 404 of the Clean Water Act (33 U.S.C. s/s 1251 et seq. (1977). Field surveys conducted by Widener & Associates revealed that there are no potential wetlands present in the project area.

4.8.3 What are the existing stormwater facilities in the area?

There is a system of catch basins and pipes in the area that collect roadway runoff and convey it several miles to the southeast to infiltration/retention ponds. There are also a few wet wells in the area that are catch basins that collect parking lot runoff and infiltrate it into the ground.

4.8.4 What are the existing groundwater conditions in the area?

Hydrology in the project area is highly influenced by irrigation, with irrigation withdrawals occurring between April and October. The groundwater elevation is largely dependant on irrigation within the Yakima Valley. Ground water elevation is at its lowest point (18.5 feet below the ground surface) in early April at the beginning of the irrigation season. It is at its highest (13.3 feet below the ground surface) in October at the end of the irrigation season. The soils in the area are predominantly gravels and cobbles to depths well below any proposed construction. These soils are extremely permeable and allow the groundwater to easily flow through the soils from the northwest to the southeast. (Shannon & Wilson, 2004).

4.8.5 How will operation of the project affect streams in the area?

Since the closest water body to the project, the Yakima River, is approximately one mile away, no impacts to streams are anticipated as a result of this project. The No Action Alternative would also have no impacts on streams.

4.8.6 How will operation of the project affect wetlands in the area?

There are no wetlands identified in the project area; therefore, the project would have no impacts on wetlands. The No Action Alternative would also have no effect on wetlands.

4.8.7 How will construction affect stormwater in the area?

Construction of the project will expose soils in the area to rainfall and runoff. Runoff within the project site will be collected in infiltration ponds on site to prevent any erosion or sedimentation problems offsite.

4.8.8 How will operation of the project affect stormwater in the area?

Preferred Alternative

Stormwater from all of the reconstructed roadways that remain at the present ground surface (Front Street, A Street, and the B Street and Lincoln Avenue Frontage Roads) will be conveyed into the existing stormwater system. Therefore, the project will have no affect on stormwater. Stormwater that falls on the two underpasses will be collected below the existing stormwater system and below groundwater, therefore it can not be drained out of the underpasses by gravity flow. This stormwater will be collected at the lowest points in the underpasses and then pumped to the surface. From there it will pass through oil/water separators to remove floating contaminants (primarily oils) and be discharged into an infiltration pond between B Street and Lincoln Avenue just east of the realigned Front Street. From there it will soak into the ground, eventually reaching groundwater. The project will affect the stormwater falling on B Street and Lincoln Avenue by infiltrating that water at the project site rather than several miles away as it does with the existing system.

No Action Alternative

The No Action Alternative would not affect the stormwater system.

4.8.9 How will construction affect groundwater in the area?

Preferred Alternative

Construction of the project will expose soils in the area to rainfall and runoff. Runoff within the project site will be collected in infiltration ponds on site to prevent any erosion or sedimentation problems offsite.

No Action Alternative

There would be no construction related impacts to groundwater under the No Action Alternative.

4.8.10 How will operation of the project affect groundwater in the area?

Preferred Alternative

Portions of the underpasses will be built below the groundwater elevation. There will be walls on both sides of both underpasses. These walls will be built by excavating 3'+/- wide by up to 40' deep trenches at the wall locations. Thick slurry (highly viscous liquids more dense than water) or steel shoring will be used to keep the sides of the trenches from caving in. These

trenches will then be filled with reinforced concrete which will serve as the underpass walls and foundations for the bridges.

Construction of the walls in this manner will have two minor affects on the groundwater. The first is that the walls will penetrate into the groundwater as much as about 25 feet and for a length of several hundred feet. This will prevent the flow of groundwater through those areas. However, due to the extreme permeability of the soils, the groundwater will easily find a flow path around and under the walls. The groundwater just upstream of the walls may be slightly higher and just downstream of the walls it may be slightly lower. These affects are expected to be very localized and are not expected to have any adverse impacts. The second is that a minor amount of cementious material may enter into the groundwater when the concrete is poured for the walls. This is common for concrete foundation work and no adverse impacts are expected.

In between the two walls of each underpass, a bottom seal will be constructed to keep groundwater from flooding the underpass. The bottom seal will be built either by jet grouting or by tremied concrete. These two methods will have similar minor affects on groundwater. Jet grouting is done by drilling 6" +/- pipes into the ground and injecting cement grout into the ground at high pressure. By doing this every 4 feet or so in a large grid between the walls, the end result will be a mass of concrete, well below the ground surface, comprised of injected cement and native soils. The other potential method is to excavate the soils between the walls and pour a thick concrete slab to form the bottom seal. Where the excavation is below groundwater, the groundwater will become a pond between the walls. The concrete seal will be poured by the tremie method which means that it will be placed underwater through tubes to the bottom of the excavation. The primary affect of both of these methods is that some cementitious material may enter the groundwater. However, since the groundwater between the walls will no longer be flowing because its flow has been cut off by the walls, this material is not likely to spread out and would likely settle out below the underpasses.

No Action Alternative

There would be no impacts to groundwater under the No Action Alternative.

4.8.11 What are the indirect and cumulative effects on water, water quality, and hydrology?

No indirect or cumulative effects on water, water quality, or hydrology are anticipated as a result of this project.

4.8.12 What measures are proposed to minimize effects?

Stormwater runoff during construction will be collected onsite to minimize erosion and sedimentation. Nearly watertight walls and bottom seals will be used to minimize inflow of groundwater into the underpasses. Oil/water separators and infiltration ponds will be used to clean the stormwater runoff from the completed project.

4.9 Vegetation and Wildlife

This section describes existing vegetation and wildlife, including fish, in the project area. The potential impacts of the project on vegetation and wildlife are described and mitigation measures to minimize impacts are proposed.

4.9.1 What are the applicable regulations and guidelines?

Species listed as threatened or endangered are protected under the Endangered Species Act of 1973 (ESA). The U.S. Fish and Wildlife Service (USFWS) implements the act in regard to plants, wildlife, and inland fish species and the National Oceanic and Atmospheric Administration – Fisheries Department (NOAA-Fisheries) implements it with respect to ocean going fish and marine mammals.

4.9.2 What vegetation communities are present in the project area?

The project area has been extensively disturbed; vegetation in the project area is sparse, consisting predominantly of curbside grasses, shrubs and a few trees.

4.9.3 What wildlife habitat is located in the area?

Habitat usable for wildlife is minimal to nonexistent.

4.9.4 What fish habitat is located in the area?

No aquatic resources are present in the project area.

4.9.5 What federally listed species are present in the area?

Analysis and documentation in accordance with the ESA was undertaken by Widener & Associates in 2004. Species lists were obtained from the USFWS (November 5, 2004) and the NOAA Fisheries web site (October 27, 2004) in order to determine which federally listed species potentially occur in the project area. The level of use of the project area and potential project effects were evaluated for each species. The following is a list of species listed in Yakima County. All of these species were addressed in the ESA analysis.

Bald eagle (Haliaeetus leucocephalus)	USFWS:Threatened
Bull trout (Salvelinus confluentus)	USFWS:Threatened
Canada lynx (Lynx canadensis)	USFWS:Threatened
Gray wolf (Canis lupus)	USFWS:Threatened
Grizzly bear (Ursus arctos)	USFWS:Threatened
Marbled murrelet (Brachyramphus marmoratus)	USFWS:Threatened
Northern spotted owl (Strix occidentalis caurina)	USFWS:Threatened
Ute ladies'-tresses (Spiranthes diluvialis)	USFWS:Threatened
Steelhead (Oncorhynchus mykiss) (Mid-Columbia River ESU)	NOAA-Fisheries:Threatened
Chum salmon (Oncorhynchus keta) (Columbia River ESU)	NOAA-Fisheries:Threatened

Only one species, the bald eagle, was identified as potentially occurring in the project area. The closest bald eagle winter concentration and foraging area is located 0.8 miles from the project area along the Naches River Corridor. (Widener & Associates, 2004) Refer to Appendix C for a copy of the "no effect" letter.

No federally listed plant species exist in the project area. In a letter dated January 28, 2005, the Washington Natural Heritage Program, Department of Natural Resources (DNR) stated that they have no record of rare plants or high quality ecosystems in the project area.

4.9.6 How will the project affect wildlife and vegetation?

Preferred Alternative

Although the ESA analysis identified one listed species, the bald eagle, as potentially occurring in the project area, it was concluded that the Preferred Alternative would have "no effect" on the bald eagle (refer to Appendix C). First, given the nature of the urbanized area and absence of perching or nesting trees in the project area, the presence of the bald eagle in the project area is highly unlikely. Second, the lack of aquatic resources in the project area further reduces the likelihood of bald eagles being present in the project area especially as there are excellent foraging opportunities along the Naches and Yakima River corridors, approximately one mile from the project area. (Widener & Associates, 2004)

The proposed project would permanently displace some curbside vegetation.

No Action Alternative

The No Action Alternative would also have "no effect" on the Bald Eagle and curbside vegetation would not be impacted.

4.9.7 What are the indirect and cumulative effects to wildlife and vegetation?

No indirect or cumulative effects to wildlife and vegetation are anticipated as a result of this project.

4.9.8 What measures are proposed to minimize the effects on vegetation?

Landscaping to replace affected trees will be incorporated into the project as appropriate.

4.10 Air Quality

This section discusses air quality in the project, including the appropriate regulatory criteria, potential impacts and mitigation measures.

4.10.1 What regulations govern air quality in the project area?

The project area lies within the Yakima maintenance areas for particulate matter (PM10) and carbon monoxide (CO). Although the project is a FHWA project, is located within the Yakima CO and PM10 maintenance areas, and will modify grade crossings at regionally significant arterial roadways, it has been determined that the project is exempt from project level conformity analysis, and a hot spot analysis is not required as per 40 CFR 93.123.. The EPA transportation conformity regulations (WAC173-420-110 (1) specifically identify a "railroad/highway crossing"

as a safety project that is exempt from the requirements to determine conformity (40 C.F.R. 93.126). The Yakima Regional Clean Air Authority (YRCAA) was contacted by the City of Yakima and confirmed that the project is exempt from the EPA transportation conformity to the State Implementation Plan (SIP) regulations and therefore project level conformity analysis is not required as part of the project.

Regional level conformity analysis is required. Since the project is listed in the approved Transportation Improvement Plan (TIP), regional air quality conformity requirements for CO and PM10 have been met.

4.10.2 How will construction affect air quality?

Preferred Alternative

Construction activities temporarily generate small amounts of PM10 in the immediate vicinity of construction activities. Construction activities will comply with YRCAA and SIP requirements for dust control, such as spraying exposed soils with water and sweeping adjacent streets. Minor amounts of CO and PM10 will be emitted in construction equipment and truck exhaust. By including dust mitigation measures and standard emission control devices on construction equipment, construction emissions will be low and construction effects on air quality will not be significant.

No Action Alternative

Construction related impacts to air quality would not occur under the No Action Alternative.

4.10.3 How will the project affect air quality?

Preferred Alternative

Vehicular Emissions

The Preferred Alternative will eliminate idling automobiles and trucks stopped at the Lincoln Avenue and B Street at-grade crossings and nearby intersections, which will reduce tailpipe emissions of air pollutants.

Locomotive Emissions

Locomotive engines emit hydrocarbons (HC), carbon monoxide (CO), nitrogen oxides (NOx), and particulates (PM). Regional locomotive emissions are a function of the number of trains (capacity) and of how they operate. The proposed project is not expected to increase the capacity of trains or change the operation of trains in the project area (other than eliminating the need for whistles). Therefore, the Preferred Alternative is not expected to increase locomotive emissions on a local or regional scale.

No Action Alternative

Vehicular Emissions

Under the No Action Alternative, CO emissions are expected to increase due to increased traffic numbers and/or train delays resulting in an increase in congestion, slower moving, and idling traffic in the project area and its surrounds. Although changes in fuel and vehicle types are

expected to reduce the amount of emissions per vehicle mile traveled in 2030 as compared to 2001, this is not expected to offset CO increases as a result of congestion.

Locomotive Emissions
The No Action Alternative is not expected to increase locomotive emissions on a local or regional scale.

4.10.4 What are the indirect and cumulative effects on air quality?

Local Air Quality
The project is expected to have a long-term beneficial impact on air quality as a result of reduced local vehicular emissions due to a reduction in time spent idling. The Preferred Alternative is expected to change traffic patterns and improve the level of service, decreasing CO emissions at other at-grade crossings within the city. Thus, CO emissions within the city are expected to decrease as a result of the Preferred Alternative.

Development and urban uses (primarily transportation activity) have resulted in cumulative degradation of ambient air quality over time; to the extent that railroad and vehicle traffic operations contribute to reduced air emissions in the future, the project would help to offset past impacts to a degree.

Regional Air Quality
By affecting vehicular traffic in Yakima, the proposed project has the potential to affect regional emissions of air pollutants. However, the project is listed in the regional TIP, therefore it has undergone regional conformity analysis and meets regional conformity requirements for CO and PM10 (pers. comm., YVCOG, June 30, 2005). On a regional basis, the proposed project would not delay the timely attainment of the National Ambient Air Quality Standards (NAAQS).

4.10.5 What measures are proposed to minimize the effects of on air quality?
Construction activities will comply with YRCAA and SIP requirements for dust control, such as spraying exposed soils with water and sweeping adjacent streets, and construction equipment will use standard emission control devices.

The project is not expected to result in any adverse impacts on air quality; therefore, mitigation measures are not warranted.

4.11 Traffic Noise

This section discusses traffic noise in the project area. Information in this section is based on the traffic noise analysis conducted for this project by Transystems in 2002. This section discusses appropriate regulatory criteria, potential impacts of the proposed project, and proposed mitigation measures.

4.11.1 How is traffic noise regulated?
Noise regulations and guidelines for federally funded highway projects in Washington are established by the WSDOT and the FHWA. Applicable noise (unwanted sound) regulations and

agency guidelines provide a basis for evaluating potential noise impacts and mitigation for a proposed project.[3] The FHWA has established a two-part test to evaluate traffic noise impacts (23 C.F.R. §772.5(g)). The FHWA defines traffic noise impacts to occur either when:

- predicted traffic noise levels approach[4] or exceed the noise abatement criteria, or
- predicted traffic noise levels substantially exceed the existing noise levels.

The FHWA noise abatement criteria are noise standards that specify exterior Leq(h)[5] noise levels for various land activity categories, as presented in Table 3. For residences, parks, schools, churches, and similar land use types, the noise abatement criterion is 67 dBA[6]. As WSDOT defines 'approach' to be within 1 dBA of the criteria, traffic noise impacts at residences would occur if predicted noise levels were to be 66 dBA or higher.

Table 3: FHWA Noise Abatement Criteria

Activity Category	Leq(h) (dBA)	Description of Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	-	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: 23 C.F.R. Part 772.

4.11.2 What are the existing sensitive receptors affect by traffic noise?

Preliminary field investigations (Transystems, 2002) and public comments identified sensitive noise receptors within 500 feet of the project area that could be potentially affected by the construction and operation of the proposed project. These are: uses within the historic district including restaurants and two residential receptors, the Senator Apartments (located at the

[3] Noise is most commonly measured in decibels (a logarithmic scale). A 6dB increase corresponds to a doubling of sound pressure; however, a 10dB increase is necessary for the sound to be perceived as being twice as loud. For example, 70dB is judged to be twice as loud as 60dB and four times as loud as 50dB.

[4] WSDOT defines 'approach' to be 1 dBA below the FHWA noise abatement criteria (WSDOT, 1999).

[5] L_{eq} = the equivalent sound level measured in decibels (the logarithmic sum of sound exposure levels over a specified time period). (h) = hours.

[6] dBA = the A-weighted sound level measured in decibels. A-weighted network = a frequency-equalizing function which approximates the sensitivity of human hearing to sounds of moderate sound pressure level.

southeast corner of Front Street and A Street and 175 feet from the southern point where temporary rail tracks would diverge from the mainline rail tracks), and the Cascade Senior Apartments (located at the southwest corner of First Street and A Street and 325 feet from the southern point where temporary rail tracks would diverge from the mainline rail).

A review of the City of Yakima's planning documents has been undertaken to identify programmed developments within the project area and determine whether or not they are likely to be affected by the project. The only programmed development within the project area is the Yakima County Detention Center, located within 500 feet of the project area. However, due to the type of construction necessary for a detention center, noise impacts at this receptor appear to be minimal.

4.11.3 What are the existing noise levels in the area?

Ambient noise levels were measured to describe the existing noise environment and to identify major noise sources in the project area. Noise levels were measured with a Type 1 sound level meter, and the measurements were consistent with FHWA and WSDOT noise measurement procedures. Existing traffic Leq noise levels were measured on October 18, 19, and 20, 2001. The results of the noise monitoring are presented in Table 4.

Table 4: Noise Measurements

Site	Location	Time	Measured Leq (dBA)	FHWA Criterion (Developed Lands)
1	Train Station Annex Northwest corner of Front Street and Yakima Avenue	3:40 p.m.	63	71
2	Track 29 Mall, southern boardwalk north of Yakima Ave and west of tracks	4:50 p.m.	62	71
3	Opera House East of Front St, midblock between Yakima Ave and A Street.	8:02 a.m.	61	71
4	Blue Banjo Tavern West of First Street, midblock between Yakima Ave and A Street.	10:32 a.m.	64	71
5	Columbine rail car South of B Street and west of tracks	5:12 p.m.	55	71

The measured Leq noise levels ranged from 55 to 64 dBA. The measured noise levels at all locations were below the FHWA / WSDOT noise abatement criteria of 66 dBA for residential

areas and 71 dBA for commercial areas. The dominant source of noise in the project area was automobile and truck traffic. No large trains passed through the project area during the noise measurements. At Site No. 1, the 60-minute measurement included a local train consisting of one engine and four cars.

4.11.4 How will construction affect noise levels?

Preferred Alternative

Construction activities will temporarily generate noise from earth-moving equipment, generators, trucks, and compaction equipment. Construction noise would occur during a two-year construction period, and potentially increase noise levels at receptors near construction activities and staging areas. Construction noise levels are not expected to exceed background noise levels (characterized by locomotive traffic), however construction noise will consist of different types/sources and will persist for longer durations than noise caused by locomotive traffic. Noise from construction is expected to be partially attenuated by the underpasses. During construction, rail traffic will be diverted to a temporary railroad bridge approximately 70 feet east of the existing tracks, between Front Street and the existing tracks. Thus, rail noise will temporarily increase in the immediate vicinity of Front Street, Lincoln Avenue and B Street.

No Action Alternative

Under the No Action Alternative, construction related noise increases would not take place.

4.11.5 How will the project affect noise levels?

Preferred Alternative

Vehicular Noise

The Preferred Alternative is expected to have no substantial effect on road traffic noise. Although the underpasses are expected to increase traffic volumes in the vicinity of B Street and Lincoln Avenue, noise levels will not change substantially.

Compared with the No Action Alternative (2030 baseline) traffic volumes, the Preferred Alternative will increase 2030 PM peak-hour traffic volumes on Lincoln Avenue by 39 percent and on B Street by 16 percent (Transpo, 2002). Traffic noise levels at adjacent receptors will increase with the additional traffic volumes. Increases in traffic volumes of approximately 16 to 39 percent will increase traffic noise levels by approximately 1 dBA. This increase in traffic noise levels will not be noticeable as compared to future traffic volumes/noise levels without the project. Peak-hour traffic volumes will correspondingly decrease on East D Street by 19 percent, on East Yakima Avenue by 5 percent, and on East Walnut Avenue by 8 percent. These decreases in traffic volumes correlate to a decrease in traffic noise levels by less than 1 dBA.

Compared with the 1999 existing condition, 2030 PM peak-hour traffic volumes under the Preferred Alternative will increase by approximately 26 to 90 percent on project-area roadways. The largest increase of 90 percent will occur on Lincoln Avenue. Most of the increase in traffic volumes will be attributable to growth in background traffic, which will occur with or without

the Preferred Alternative. Increases in traffic volumes of approximately 26 to 90 percent would increase traffic noise levels by approximately 1 to 3 dBA, as compared to 1999 existing conditions. Therefore future traffic noise levels would not meet or exceed the FHWA/WSDOT criteria or substantially exceed the existing noise levels. Furthermore, as an increase of 3dB is generally only just discernable by humans, changes in the noise environment as a result of traffic are not expected to affect people in close vicinity of the project area.

Railroad Noise

Railroad noise is a function of the total number of trains, the type and number of locomotives and cars in an individual train, speed or throttle setting, and distance from a receptor to the tracks. The major railroad noise sources include locomotive whistle noise, noise from the diesel engines and their exhaust, as well as the wheel-rail rolling interaction, including squeal noise generated by friction on tight curves and impact noise at rail joints.

Under the Preferred Alternative, all existing mainline track between Yakima Avenue and D Street would be replaced with continuous welded rail, reducing railroad noise. Under the Preferred Alternative, Lincoln Avenue and B Street would be grade separated from the railroad, permanently eliminating the need for train whistles at the crossings, further reducing train related noise.

No Action Alternative

Under the No Action Alternative, no rail replacement would take place and whistles would still be required at crossings. Noise associated with train whistles would increase with increases in train traffic.

4.11.6 What are the indirect and cumulative effects on traffic noise?

As a result of the proposed project, traffic volumes at the remaining at-grade crossings within the CBD are expected to decrease, which is expected to reduce noise levels in the vicinity of those crossings.

Development and urban uses (primarily transportation activity) have resulted in cumulative degradation of noise conditions over time. To the extent that railroad and vehicle traffic operations contribute to reduced noise in the future, the project would help to offset past impacts to a degree, resulting in minor, long-term reduction in traffic noise.

4.11.7 What measures are proposed to minimize noise effects during construction?

Piles will be drilled to reduce noise effects on nearby sensitive receptors and historic structures.

4.11.8 What measures are proposed to minimize traffic noise from the project?

No substantial changes to road traffic noise are anticipated from this project, so no minimization measures are proposed.

4.12 Aesthetics

4.12.1 What is the existing visual character of the area?

The existing visual quality in the project area is characterized by the urban nature of the area and the transportation corridors that bisect the area. Another major feature immediately adjacent to the project area is the National Historic District, containing buildings from the late 1800's to early 1900's. Though improvements have been made to these buildings and the area in general, remnants of the original architecture and streetscape (including brick pavers and glass tiles) still remain.

4.12.2 How will operation of the project affect the visual character of the area?

Preferred Alternative

The Preferred Alternative will not affect the visual quality of the project area. The grade-separated roadway will not be visible from Front Street until vehicles are nearly directly over B Street and Lincoln Avenue, and the grade separations will be underpasses versus overpasses (Walnut Street vs. Nob Hill Boulevard).

No Action Alternative

Under the No Action Alternative, the visual quality of the project area would also not change.

4.12.3 What measures are proposed to minimize the projects' impacts to the visual character of the area?

Since the proposed project will not impact the visual character of the area, no mitigation measures are warranted.

4.13 Hazardous Materials

This section summarizes the findings of the *Phase I Environmental Site Assessment* conducted for this project by Shannon & Wilson in 2004. Refer to Appendix G for the full technical report.

4.13.1 What are the applicable regulations and guidelines?

Numerous federal, state, and local regulations and policies govern decisions concerning hazardous materials and hazardous waste potential and liability issues. Federal law and regulations relating to hazardous materials and wastes that affect the project include the following:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) — CERCLA and the Superfund Amendments and Reauthorization Act (SARA) define liability for hazardous waste contamination and require liable parties to take responsibility for cleanup. This relates to acquisition of properties for the project that may have been previously contaminated. The purpose of this EA is, in part, to address liability issues relating to identification of, and acquisitions of, previously contaminated property.

Resource Conservation and Recovery Act (RCRA) — provides requirements for the handling, transportation, treatment, storage, and disposal of hazardous materials and wastes. It includes

provisions for identifying and classifying hazardous materials and wastes, and through the Hazardous and Solid Waste Amendments (HSWA), creates treatment standards for specific wastes. HSWA also establishes requirements for ownership, operation, maintenance, and closure of underground storage tanks (USTs). Any removal, treatment, or transportation of contaminated soils as part of the project would need to be conducted in compliance with RCRA.

Occupational Safety and Health Act (OSHA) — establishes requirements for site safety procedures, worker training, and worker safety and health standards for employees engaged in work related to hazardous materials. All work relating to the handling of, and potential exposure to, hazardous substances by workers while conducting activities associated with the project must be in compliance with the relevant sections of OSHA.

Clean Water Act (CWA) — provides for comprehensive federal regulation of all sources of water pollution. Any activities associated with the project that have the potential to introduce hazardous substances to surface waters, including wetlands, must be in compliance with CWA. Several permit programs have been established to address these issues. Permits and approvals required under CWA for the project that would require addressing hazardous substance issues include a National Pollutant Discharge Elimination System (NPDES) General Stormwater Permit for Construction Activities, which requires the development and implementation of a Stormwater Pollution Prevention Plan.

National Environmental Policy Act (NEPA) — requires that all actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations are given due weight in project decision-making. Because funding for the project likely would be partially funded from the FHWA, NEPA compliance is required. One of the major elements addressed in a NEPA assessment is Environmental Health. Assessment of impacts associated with hazardous materials and waste is a component of the Environmental Health evaluation.

Washington State implements many of the federal statutes pertaining to hazardous materials and wastes along with its own, often more stringent, laws and regulations. These requirements, listed below, take precedence over all other laws for governing business and operations within the state.

Model Toxics Control Act Cleanup Regulation (MTCA) — Washington Administrative Code (WAC) 173-340 implements MTCA, Revised Code of Washington (RCW) 70.105D. This provides strict requirements for site discovery and reporting, site assessments, and hazardous site listing. This regulation defines standard methods used to assess whether a site is contaminated or clean. This regulation specifically relates to any hazardous materials and water investigations associated with the project. Cleanup standards for hazardous wastes are promulgated under MTCA. Cleanup of contaminated sites is likely to be accomplished as independent actions, with technical review provided by DOE on an as-needed basis as provided for under MTCA.

Dangerous Waste Regulations — WAC 173-303 implements RCRA and the Hazardous Waste Management Act, RCW 70-105. This provides for waste identification procedures unique to Washington State. Detailed requirements for forms and rules related to manifesting and transporting of hazardous waste are included. As stated above, any handling, treatment, or transport of hazardous waste associated with the project would be required to be in compliance with RCRA and also with Washington's Dangerous Waste Regulations and Hazardous Waste Management Act. Contaminated materials generated during construction, including soil, water, and debris, would need to be properly designated before disposal. In addition, wastes generated by the contractor during construction also would need to be properly designated.

Water Pollution Control Act — RCW 90.48 implements two administrative regulations that control pollution in state waters. Water Quality Standards for Surface Waters of the State of Washington, WAC 173-201A, establishes standards for toxic substances, conventional parameters (e.g., pH, dissolved oxygen, temperature), and aesthetic values for marine and fresh surface waters. Water Quality Standards for Ground Water of the State of Washington contain similar regulations for groundwater, with special emphasis on radionuclides and carcinogens, due to potability issues. Any construction or operational activities associated with the project must comply with Washington's water quality standards. Wastewater Discharges to Surface Waters, WAC 173-220 regulates discharges to surface water from construction projects. Under this program, it is unlawful to discharge polluting matter to surface waters without an NPDES Permit. A general NPDES for construction would be required for the project. Wastewater Discharges to the Ground, WAC 173-216, regulates discharge of stormwater to detention basins if this water contains unacceptable concentrations of polluting matter. The project would likely be exempt from the requirements of this regulation if an NPDES Stormwater Permit for construction is acquired. This should be verified during the permitting process conducted for this project.

Washington Industrial Safety and Health Act (WISHA) — RCW 49-17 implements the Occupational Health Standards WAC 296-62. RCW 49-17 also implements Safety Standards for Construction Work WAC 296-155, which contains the Safety Standards for Asbestos and Encapsulation WAC 296-65. These standards include rules covering operations at known hazardous waste sites and initial investigations of sites identified by the government, which are conducted before the presence or absence of hazardous substances has been ascertained. Also included are rules on site assessment and control, training, protective equipment, and emergency response. All construction activities associated with the project must comply with WISHA. WISHA includes specific procedures for work with lead-based paint and asbestos-containing materials.

Underground Storage Tanks (UST) – The RCRA UST program is implemented through WAC 173-360 by DOE. The regulations impose a very short (24-hour) reporting requirement for leaks and releases from regulated tanks. A related regulation is the Uniform Fire Code 7902.1.7.2.3 (WAC 51-34-7902.1.7.2.3). This regulation requires that USTs not in service for less than one

year must be temporarily closed in place and that tanks not in use for more than one year must be permanently closed in place or removed. The removal of USTs requires permits and a licensed UST remover. These regulations would be applicable if the ARCO/Lincoln Avenue Car Wash site is acquired for the project.

4.13.2 What contaminated sites have been identified in the area?

Research in the Yakima Railroad Area (YRRA) conducted by the Washington State Department of Ecology (DOE) revealed contamination of groundwater in some areas. The YRAA encompasses approximately six square miles and roughly includes the area from Lincoln Avenue to Washington Avenue and from 8th Avenue to Interstate 82.

The *Phase 1 Environmental Site Assessment* identified three adjacent facilities and three facilities within 450 feet of the project area that are on DOE's lists as locations where soil and/or groundwater contamination has been detected or is suspected. They include adjacent sites Elliott Tire Center, ARCO/Lincoln Avenue Car Wash, and former Crest Linen,and the more distant sites Hops Extract of America, City of Yakima Fire Department, and Department of Corrections. Subsequent remediation led to two of these sites receiving a "No Further Action" status by DOE; however residual soil contamination and/or groundwater contamination remains at the Elliott Tire Store, the ARCO/Lincoln Avenue Car Wash, the former Crest Linen, and the City fires station sites. Because of the residual contamination, proximity, and the potential acquisition of at least portions of these properties, the ARCO/Lincoln Avenue Car Wash and the Elliott Tire Store sites are considered to have RECs (Recognized Environmental Conditions) relative to this project. Subsurface soil and groundwater sampling conducted as part of the environmental assessment indicated that groundwater in the project vicinity contained contaminants, but at levels below regulatory criteria. (Shannon & Wilson, 2004)

The ARCO/Lincoln Avenue Car Wash site is located on the north side of Lincoln Avenue and west of North 1st Street. It is anticipated that the existing business at the site will be displaced by the proposed project, and all or part of the site will be acquired. The ARCO/Lincoln Avenue Car Wash site is considered to be an REC because of anticipated purchase of the property for the proposed project, and because petroleum hydrocarbons have been detected in groundwater samples from the site. (Shannon & Wilson, 2004)

The Elliott Tire Center site is located on the northside of Lincoln Avenue and east of North Front Street. It is anticipated that a portion of the property (additional ROW) may be acquired for the proposed project. The Elliott Tire Center site is considered to be an REC because of anticipated purchase of at least a portion of the property for the proposed project, and because PCS was left in place beneath the building at the site. (Shannon & Wilson, 2004)

For a more detailed discussion of the sites listed above, refer to the *Phase I Environmental Site Assessment* technical report provided in Appendix G.

4.13.3 How will construction affect hazardous materials and water quality?

Preferred Alternative

Construction of the Preferred Alternative is not expected to affect any hazardous waste material sites.

The Elliott Tire Center site has an area of known residual petroleum contamination in shallow soil beneath the building, approximately 105 feet north of the project alignment. Although a small portion of the Elliott Tire Store property may be acquired for additional street ROW, acquisition of the known contaminated area will be avoided.

Petroleum hydrocarbons and lead have been detected in groundwater samples from the ARCO/Lincoln Avenue Car Wash site. However, excavations in the vicinity of the ARCO/Lincoln Avenue Car Wash site are expected to range between 0 and 10 bgs, which is above the high groundwater elevation. Therefore, contamination from this site, if present, is not likely to be encountered during construction.

During construction, there is a risk for hazardous material spills to take place. To avoid or minimize the spill of hazardous materials, a Hazardous Material Spill Prevention Plan will be in place throughout construction. In addition, refueling operations will be conducted at least 50 feet from an open water body in accordance with the Department of Ecology 401 water quality certification.

No impacts to water quality are anticipated during construction of the Preferred Alternative as dewatering will not take place as part of construction, stormwater runoff from the completed project will be treated per WSDOT's 2004 Stormwater Runoff Manual, and erosion control BMPs will be in place prior to the initiation of construction and will be maintained throughout construction.

No Action Alternative

Under the No Action Alternative there would be no risk of encountering a hazardous material site, or of hazardous material spills occurring as a result of this project.

4.13.4 How will the operation of the project affect hazardous materials and water quality?

The Preferred Alternative is not expected to affect any hazardous waste material sites.

As stormwater is not currently treated to existing standards in the project area, it would not be treated to existing standards under the No Action Alternative.

4.13.5 What are the indirect and cumulative effects on hazardous materials?

No indirect or cumulative impacts from known hazardous sites in the project vicinity are anticipated.

4.13.6 What measures are proposed to minimize the effects of disturbing hazardous materials?

Acquisition of the known contaminated area on the Elliott Tire Center site will be avoided should acquisition of portions of this property be required for additional ROW for this project as is anticipated.

The ARCO/Lincoln Avenue Car Wash site has one building. If it is schedule for demolition as part of the proposed project, an asbestos survey would need to be performed by an Asbestos Hazard Emergency Response (AHERA) certified building inspector to verify the presence or absence of asbestos containing materials (ACBM) and to estimate quantities.

Should a hazardous material be encountered during construction, containment will be undertaken in accordance with DOE guidelines.

5. Public Involvement

The City of Yakima has undertaken an extensive public involvement process for the Yakima Grade Separation Project. Major elements of this effort are described below.

5.1 How has the public been involved in this project?

Two public meetings have been held on the project to date, and business surveys were distributed to businesses in the project area. Those activities are summarized below. Refer to Appendix B to view announcements for the public meetings and the business surveys, and for responses to public meeting comments, comments from the questionnaire and comments received regarding the project in general. Key comments received through the process of public outreach, including open house meetings, the press briefings, letters, and the Business Operations and Marketing Questionnaire, are summarized in Table 5.

October 2001 Public Meeting

Consultation with potentially affected interests (PAIs) was initiated with the issuance of a press release by the City of Yakima on May 21, 2001. At this time, the feasibility of grade separating each of the seven original at-grade crossings was being investigated as described in the project Draft Design Report (Berger/ABAM Engineers, 2003).

A public open house meeting to discuss the project and associated issues was held by the City of Yakima on October 18, 2001. Attendees included resource and regulatory agencies, adjacent property and business owners and the general public who either received written invitations or read about the meeting in published news releases. The main objective of the meeting was to inform the participants about the project and proposed alternatives and receive feedback regarding these issues. Two main concerns raised by those present included the effects on businesses and the historic district.

April 2002 Public Meeting

As a result of further engineering studies, coordination with the railroad, public input, available funding, and the City's desire to maintain Front Street as a through street within the downtown area, all crossings other than B Street and Lincoln Avenue were eliminated from consideration under the proposed project. Lincoln Avenue and B Street were selected for continued project development due to the projected ADT volumes to 2030, arterial classification, and their function as a one-way couplet. Addressing these two crossings met the purpose and need of the project while providing maximum transportation and community benefit for a given amount of financial expenditure and with the least community disruption.

A second public open house meeting was held on April 4, 2002 to discuss the revised layout and design concept of the B Street and Lincoln Avenue grade separations and mitigation for effects to Front Street. Comments received at this meeting were primarily related to effects to business

access and parking, as well as the continued legitimacy of the purpose and need of the project. These comments and the responses to them are provided in Appendix B.

November 2004 Public Notice and Business Surveys

Discussion of the project continued in the press following the public meetings and support for the project has increased, including support from the Yakima Police Department, Yakima Fire Service, and Westside Merchants and Business Association (see Appendix B). However, despite the project plan revisions, concerns remained regarding the effects of the project on access to businesses/properties and to the short and long-term economic viability of businesses in the vicinity of these two railroad crossings.

In November 2004, a Business Operations and Marketing Questionnaire was distributed (in English and Spanish) to business owners in the project area. Additionally, a Public Notice was published (in English and Spanish) in the Yakima Herald on November 15, 2004 soliciting public comment on the project and responses to the questionnaire. Copies of the public notice and questionnaire in both languages are included in Appendix B as a sample of translated outreach materials for this project. Results of the survey indicated concern over effects to business viability as a result of changes in traffic flow during construction (a temporary condition), pedestrian, vehicle and truck access and parking. On March 11, 2005, a final invitation was sent to respondents (in English and Spanish) asking them to provide any additional information they felt was important in assessing the effects the project would have on adjacent businesses One response was received.

5.2 What future public involvement activities are anticipated for this project?

Public outreach will continue as the project moves forward. In response to the concerns outlined in Table 5, the City will continue to work with property and business owners to avoid the effects to access and parking during construction. It is anticipated that at least one more public meeting will be held to facilitate on-going efforts to involve the public in the project design development process. Flyers and other materials will be written in both English and Spanish and will be distributed to landowners and residential addresses of the properties in the project area. Flyers will be placed on public bulletin boards/telephone poles and in local stores and restaurants as well as posted on the city's website. In addition, as part of this process, the Executive Summary for this EA will be provided in Spanish. Other documents related to this project and EA will be provided in Spanish upon request.

Table 5: Matrix of Key Comments Received from Potentially Affected Interests (PAIs)

Issues \ PAIs	Yakima Herald	Mark Peterson	Westside Merchants & Business Assoc'n	John Puccinelli	Yakima Police	Scott Holman	Bill Campbell Jr.	Yakima Co Probation	Standard Paint	Tequila's Restaurant	Stoneway Electric	Inland Lighting	WA Fruit	Barth Clinic	Nancy's Beauty Shop	Dept of Ag	John Haas	Depot Restaurant	Yakima Fire Dept	Elliott Tire	H & H Furniture	Sundquist	Greystone Restaurant	Chemical & Hop Lab	Arco Station / Lincoln Ave Car Wash	Helliesen Lumber	Pleas Green	Section(s) in the Environmental Assessment that Address this Issue
Emergency service response times potentially longer during construction																			●									1) Section 4.3 Public Services and Utilities, 2) Appendix E: Economic Analysis Phase III, Section 2, Effect Minimization Measures
We may have to relocate some/all of our business facility / staff													●															Appendix E: Economic Analysis Phase III, Section 2, Effect Minimization Measures
The value of my property will plummet																											●	Appendix E: Economic Analysis Phase II & III, Purpose of the Economic Analysis, 2nd paragraph
Business signage will be obscured										●								●		●					●	●		1) Section 4.2 Transportation, 2) 4.4 Socioeconomic Impacts
Parking and pedestrian access will be eliminated																										●		1) Section 4.2 Transportation, 2) 4.4 Socioeconomic Impacts
Traffic flow will be a nightmare – access to our business will be compromised											●	●	●	●	●	●	●			●	●	●	●	●	●	●		1) Section 4.2 Transportation, 2) 4.4 Socioeconomic Impacts
Our business will suffer – income loss, staff cuts, fewer customers				●						●								●		●	●		●		●			Section 4.4 Socioeconomic Impacts
Temporary inconvenience only – long term improved safety								●	●																			1) Executive Summary, 2) Section 2 Purpose and Need
Impacts on businesses must be addressed	●			●																								Appendix E: Economic Analysis Phases I, II & III
Construction of B and Lincoln will destroy businesses		●																										Appendix E: Economic Analysis Phase II & III, Purpose of the Economic Analysis, 2nd paragraph
City should address impending train traffic problems	●																											1) Executive Summary, 2) Section 2 Purpose and Need
Existing traffic delays barely inconveniences me																												1) Executive Summary, 2) Section 2 Purpose and Need
Underpasses would improve downtown driving experience						●																						1) Executive Summary, 2) Section 2 Purpose and Need, 3) Section 4.2 Transportation
Is grade separation really needed at Yakima Avenue?	●			●		●																						The proposed project does not include grade separation of Yakima Avenue
Save historic significance of Yakima Avenue	●	●																										The proposed project does not include grade separation of Yakima Avenue
Grade separation 'ill conceived'		●					●							●							●							Section 2 Purpose and Need
Underpass at Yakima would destroy historic district		●																										The proposed project does not include grade separation of Yakima Avenue
Grade Separation at Lincoln and B a good plan			●	●		●																						Section 2 Purpose and Need
Increase in trains could have significant impact on emergency services					●																							Section 4.3 Public Services and Utilities, 2) Appendix E: Economic Analysis Phase III, Section 2, Effect Minimization Measures
Grade separation at Yakima Avenue will kill downtown businesses		●																										The proposed project does not include grade separation of Yakima Avenue

6. Summary of Mitigation Measures

This chapter summarizes mitigation measures that have been agreed to and incorporated into this project.

Land Use

Direct effects to private property and business accesses that are unavoidable and eligible will be compensated for in accordance with State and Federal ROW procedures for federally funded projects. Property acquisition would comply with applicable federal and state regulations. Businesses relocated as part of this project will receive benefits under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

Transportation

The City will develop a public information program to provide local businesses and their customers, as well as the general public, with up-to-date construction and traffic detour information.

Public Services and Utilities

Construction activities will be coordinated with local service providers (i.e. police, fire, emergency services).

Mitigation measures during construction for utilities will be to relocate all the utilities prior to the time when the existing utilities are disrupted. This will minimize the disruptions to the time needed to switchover from the existing services to the newly constructed services.

Socioeconomic

During construction, reasonable access will be maintained to all existing businesses, detour routes will be signed, and additional construction signage will be installed to mitigate effects to local business signage.

After construction, access to businesses and business parking lots will be reconfigured where necessary to accommodate affected businesses in a manner that results in appropriate access, and no net loss in parking. The City will continue to work with property and business owners to minimize both short and long term effects to access and parking.

Environmental Justice

Public notices/information sheets will be published in both English and Spanish.

Historical, Architectural, Archeological and Cultural Resources

A concrete saw or high-pressure water cutter, rather than a jack hammer, will be used to remove the concrete ramp associated with the Hollingberry and Son Building. The concrete will be cut a minimum of two inches back from the building. Once the concrete has been cut the ramp will be broken apart with the use of a hydraulic excavator. Care shall be taken to pull the broken pieces of concrete away from the building. Once the ramp is removed the remaining sliver of concrete

will be removed from the building using hand tools to ensure the original building is not damaged.

A concrete barrier or a concrete steel post will be installed at the north east corner of the Hollingberry and Son Building to prevent any vehicles using the new access road from making contact with the building. The access road will be designed to accommodate a single unit truck.

Coordination with SHPO in regard to the Hollingberry and Son Building is ongoing and the City will continue consulting with the SHPO throughout the project to ensure current safeguards are maintained. DAHP will be afforded an opportunity to review and approve any plans/specifications for protecting the Hollingberry Building from damage from vehicles circulating near the building. Landscaping and architectural treatment of the project around the Hollingberry and Sons Building, (i.e. underpass wall surface, railing, light fixtures) will be coordinated with SHPO during the final design phase of the project to ensure final design details compliment the historic building and it's surrounding.

Although the probability of intact cultural deposits being within the project APE is considered low, protocols will be developed for accommodating the inadvertent discovery of archaeological materials, should significant cultural materials be discovered in the course of construction. Protocols will be reviewed by professional staff with the cultural resources program at the Yakama Nation. (WSHS, 2005)

The use of vibratory compaction equipment (including jack hammers) and blasting will not be permitted within 50 feet of listed historic buildings.

Water, Water Quality and Hydrology

Erosion control best management practices will be installed prior to construction and maintained throughout construction.

Stormwater will be treated per WSDOT's 2004 Stormwater Runoff Manual. Stormwater runoff during construction will be collected on-site to minimize erosion and sedimentation. Nearly watertight walls and bottom seals will be used to minimize inflow of groundwater into the underpasses. Oil/water separators and infiltration ponds will be used to clean the stormwater runoff from the completed project.

Construction methods requiring dewatering will not be used.

Air

In order to minimize any potential short-term effects to air quality, construction activities will comply with YRCAA and the SIP requirements for dust control, such as spraying exposed soils with water and sweeping adjacent streets. Minor amouns of CO and particulate matter will be emitted by construction equipment and truck exhaust, which will be mitigated for with standard emission-control devices.

Noise

Piles will be drilled, as opposed to being driven, to reduce vibration during construction. No pile driving will take place as part of this project.

Blasting will not be allowed.

Hazardous Materials

Acquisition of the known contaminated area on the Elliott Tire Center site will be avoided should acquisition of portions of this property be required for additional ROW for this project as is anticipated.

The ARCO/Lincoln Avenue Car Wash site has one building. If it is schedule for demolition as part of the proposed project, an asbestos survey would need to be performed by an Asbestos Hazard Emergency Response (AHERA) certified building inspector to verify the presence or absence of asbestos containing materials (ACBM) and to estimate quantities.

To avoid and minimize the spill of hazardous materials, a Hazardous material Spill Prevention Plan will be in place throughout construction.

Should a hazardous material be encountered during construction, containment will be undertaken in accordance with DOE guidelines.

Vegetation

Landscaping to replace affected trees will be incorporated into the project as appropriate.

7. References

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Appendices A – I for the
Yakima Grade Separation: Lincoln Avenue and B Street project
are contained in a separate binder accompanying this EA.

Additional copies are available upon request.

Appendix A – Agency Correspondence

Appendix B – Public Coordination

Appendix C – Endangered Species Act Documentation

Appendix D – Cultural Resource Report

Appendix E – Phases 1, 2 and 3 Economic Assessment

Appendix F – Environmental Justice Technical Report

Appendix G – Environmental Site Assessment

Appendix H – Transportation Impact Analysis

Appendix I – City Council Resolution